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Part III

Environmental Protection Agency

Voluntary Aftermarket Part Self-Certification Regulations; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 85]

[FRL-1260-7]

Voluntary Aftermarket Part Self-Certification Regulations

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: This notice proposes regulations establishing a Voluntary Aftermarket Part Self-Certification Program (hereinafter "Certification Program") and announces public hearings regarding these regulations. Section 207(a)(2) of the Clean Air Act (hereinafter "Act") requires the Environmental Protection Agency (hereinafter "Agency" or "EPA") to promulgate final regulations establishing this program by August of 1979.

The primary purpose of the Certification Program is to reduce the potential adverse economic impact on the automotive aftermarket industry that could result from full implementation and enforcement of the emission warranties, while at the same time assuring that certified parts do not cause vehicle emissions to increase.

The Certification Program would accomplish this objective by enabling part manufacturers, on the basis of quick and inexpensive, but reliable means, to serve notice to the public that their parts are equivalent to the original equipment parts with respect to their impact on emissions, and further that no emission warranty claim can be denied by a vehicle manufacturer on the basis of the use of that part. Thus the Certification Program, as proposed, would allow full implementation of the emission warranties without disrupting the competitive structure of the automotive aftermarket industry.

DATES: Comments will be received until November 12, 1979. The Hearing will begin on October 3, 1979, at 9:00 a.m. and continue through October 5, 1979, if necessary. Any person desiring to participate in the hearing should notify the Agency of his or her intention along with an outline of the points to be discussed and the time needed to discuss these points no later than 10 days prior to the hearing.

Final regulations, modified as the Administrator deems appropriate after consideration of comments, will be promulgated as soon as practicable after such consideration.

ADDRESSES: Send written comments to: Public Docket EN-79-8, Central Docket Section (A-130) Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. A person should submit his or her intention to participate in the hearing along with an outline of points to be discussed to: Director, Mobile Source Enforcement Division (EN-340) U.S. Environmental Protection Agency, 401 M Street, Washington, D.C. 20460. The hearing will be held at the following location:

Royal Court Room, Ascot House, 1100 South Michigan Street, Chicago, Illinois.

Public Docket

Copies of materials relevant to this rulemaking proceeding are contained in *Public Docket EN-79-8* at the Central Docket Section of the U.S. Environmental Protection Agency, Room 2903 B, Waterside Mall, 401 "M" Street, S.W., Washington, D.C. 20460 and are available for review between the hours of 8:00 a.m. and 4:00 p.m. Monday through Friday. As provided in 40 CFR Part 2, a reasonable fee may be charged for copying services.

FOR FURTHER INFORMATION CONTACT: Mr. David Feldman or Mr. Richard Ackerman, Mobile Source Enforcement Division (EN-340), Environmental Protection Agency, 401 "M" Street, S.W., Washington, D.C. 20460, (202) 472-9350.

SUPPLEMENTARY INFORMATION:

I. Explanatory Statement

A. Related Provisions

The following provisions of the Clean Air Act are relevant to the Voluntary Aftermarket Part Self-Certification Program:

Section 207(a)

"(1) Effective with respect to vehicles and engines manufactured in model years beginning more than 60 days after the date of the enactment of the Clean Air Amendments of 1970, the manufacturer of each new motor vehicle and new motor vehicle engine shall warrant to the ultimate purchaser and each subsequent purchaser that such vehicle or engine is (A) designed, built, and equipped so as to conform at the time of sale with applicable regulations under section 202, and (B) free from defects in materials and workmanship which cause such vehicle or engine to fail to conform with applicable regulations for its useful life (as determined under sec. 202(d)).

"(2) In the case of a motor vehicle part or motor vehicle engine part, the manufacturer or rebuilder of such part may certify that use of such part will not result in a failure of the vehicle or engine to comply with emission standards promulgated under section 202. Such certification shall be made only under such regulations as may be promulgated by the Administrator to carry out the purposes of subsection (b). The Administrator shall promulgate such regulations no later than two years following the date of the enactment of this paragraph."

Section 207(b)

"If the Administrator determines that (i) there are available testing methods and procedures to ascertain whether, when in actual use throughout its useful life (as determined under section 202(d)), each vehicle and engine to which regulations under section 202 apply complies with the emission standards of such regulations, (ii) such methods and procedures are in accordance with good engineering practices, and (iii) such methods and procedures are reasonably capable of being correlated with tests conducted under section 206(a)(1), then—

(1) he shall establish such methods and procedures by regulation, and

(2) at such time as he determines that inspection facilities or equipment are available for purposes of carrying out testing methods and procedures established under paragraph (1), he shall prescribe regulations which shall require manufacturers to warrant the emission control device or system of each new motor vehicle or new motor vehicle engine to which a regulation under section 202 applies and which is manufactured in a model year beginning after the Administrator first prescribes warranty regulations under this paragraph. The warranty under such regulations shall run to the ultimate purchaser and each subsequent purchaser and shall provide that if—

(A) the vehicle or engine is maintained and operated in accordance with instructions under subsection (c)(3),

(B) it fails to conform at any time during its useful life (as determined under section 202(d)) to the regulations prescribed under section 202, and

(C) such nonconformity results in the ultimate purchaser (or any subsequent purchaser) of such vehicle or engine having to bear any penalty or other sanction (including the denial of the right to use such vehicle or engine) under State or Federal law, then such manufacturer shall remedy such nonconformity under such warranty with the cost thereof to be borne by the manufacturer. No such warranty shall be invalid on the basis of any part used in the maintenance or repair of a vehicle or engine if such part was certified as provided under subsection (a)(2). For purposes of the warranty under this subsection, for the period after twenty-four months or twenty-four thousand miles (whichever first occurs) the term "emission control device or system" means a catalytic converter, thermal reactor, or other component installed on or in a vehicle for the sole or primary purpose of reducing vehicle emissions. Such term shall not include those vehicle components which were in general use prior to model year 1968."

Section 207(c)

"(3)(A) The manufacturer shall furnish with each new motor vehicle or motor vehicle engine written instructions for the proper maintenance and use of the vehicle or engine

by the ultimate purchaser and such instructions shall correspond to regulations which the Administrator shall promulgate. The manufacturer shall provide in boldface type on the first page of the written maintenance instructions notice that maintenance, replacement, or repair of the emission control devices and systems may be performed by any automotive repair establishment or individual using any automotive part which has been certified as provided in subsection (a)(2).

(B) The instruction under subparagraph (A) of this paragraph shall not include any condition on the ultimate purchaser's using, in connection with such vehicle or engine, any component or service (other than a component or service provided without charge under the terms of the purchase agreement) which is identified by brand, trade, or corporate name; or directly or indirectly distinguishing between service performed by the franchised dealers of such manufacturer or any other service establishments with which such manufacturer has a commercial relationship, except that the prohibition of this subsection may be waived by the Administrator if—

(i) the manufacturer satisfies the Administrator that the vehicle or engine will function properly only if the component or service so identified is used in connection with such vehicle or engine, and

(ii) the Administrator finds that such a waiver is in the public interest."

B. Background

As previously stated, the primary purpose of the Certification Program is to reduce the potential adverse economic impact on the automotive aftermarket industry that could result from full implementation and enforcement of the emission warranties, while at the same time assuring that certified parts do not cause vehicle emissions to increase.

Section 207(a)(1) of the Act requires all vehicle manufacturers to warrant their vehicles to be free from defects in materials and workmanship that will cause the vehicle to fail to meet applicable emission related regulations. In addition, section 207(b) of the Act requires that EPA promulgate regulations requiring vehicle manufacturers to warrant the emission control devices and systems of each new vehicle such that if the vehicle, although maintained and used in accordance with the manufacturer's written instructions, fails an EPA approved emission short test, the cost of repairing the emission control devices or systems would be borne by the vehicle manufacturer. EPA expects these regulations to be promulgated in time to take effect for 1980 model year vehicles.

The use of inferior quality parts can cause a vehicle to exceed emission standards. They can do this in two ways. First, a part, such as a catalytic converter, can directly cause the vehicle to exceed emission standards by failing to perform in the same manner as the original equipment part (hereinafter "OE part"). Second, a part can indirectly cause emission standards to be exceeded by operating in a manner adversely affecting another part which in turn causes vehicle emissions to increase. Vehicle manufacturers, in order to protect themselves from being required to pay for repairs necessitated by the use of such parts, have specified in the maintenance and use instructions provided to new vehicle owners, that vehicles should be maintained and repaired with only OE parts or parts equivalent to OE parts. Further, the instructions have stated that the vehicle manufacturer will not be responsible for any repairs necessitated by the installation of a non-equivalent part. At present, there is no way to enable vehicle owners to identify parts that are equivalent to OE parts from an emission standpoint. Therefore, until an easy way of determining equivalency is provided to vehicle owners, the only way a car owner can be absolutely certain that his or her vehicle remains eligible for free emission warranty repairs is to use OE parts.

As a result of the situation discussed above, in December 1974, the Subcommittee on Environmental Problems Affecting Small Business found that the maintenance and use instructions, coupled with the emission warranties, create a psychological and financial tie-in between the new car owner and OE parts for 5 years or 50,000 miles.[1] On the basis of this finding the Subcommittee was of the opinion that the 5 year/50,000 mile warranty provisions of the Act are anticompetitive and provide the means by which the major vehicle manufacturers can monopolize the automotive aftermarket part industry to the serious detriment of the over 1,700 independent parts manufacturers and 22,000 wholesalers and distributors.

Because of Congress's concern that the emission warranties could have an anticompetitive effect, section 207(a) of the Act was amended in August 1977, to require EPA to promulgate regulations establishing an aftermarket part certification program by August of 1979. EPA, together with the affected industries, had been developing a voluntary aftermarket self-certification program for a number of years prior to the enactment of this amendment.

In July 1973, EPA attempted to determine the full extent of public concern regarding the possible anticompetitive effects of the warranty provisions of the Act. The Agency accomplished this by developing and distributing a voluntary questionnaire to the aftermarket industry (primarily through trade associations), vehicle and engine manufacturers, selected state air pollution control agencies and public interest groups. The questionnaire appeared in its entirety in the **Federal Register** on November 14, 1974, at 37 FR 40192. The Agency also published an Advance Notice of Proposed Guidelines (ANPG) outlining a program for the voluntary self-certification of aftermarket parts, the major portions of which are included in this proposal.

Since that time, the Agency has been in continuous contact with representatives of the major affected industries regarding this program. In addition, EPA has advised other interested parties of the program and requested their participation either directly with EPA or through the appropriate industry representatives. The proposal is based in part upon a recommended voluntary self-certification program and standards for specific replacement parts submitted to EPA by the Automotive Liaison Council (ALC). The ALC represents the Automotive Parts and Accessories Association, Automotive Parts Rebuilders Association, Automotive Service Industry Association, Automotive Warehouse Distributors Association and the Motor and Equipment Manufacturers Association. The ALC invited and received input from motor vehicle manufacturers in the development of their recommended program and part standards.

II. Outline of Certification Procedure

The certification of parts pursuant to this proposal would be voluntary. Certification by the part manufacturer would be on the basis of the completion of tests and analyses which demonstrate compliance with the applicable Emission Related Standards set forth in the proposal or on the basis of back-to-back emission testing. Once a manufacturer has complied with the requirements of these procedures, it may represent the applicable parts to the public as "Certified to EPA Standards". This representation shall mean that the part is equivalent to the original part with regard to its impact on emissions and that the use of that part would

[1] Subcommittee of the Permanent Select Committee on Small Business in a Report on the "Monopolistic Tendencies of Auto Emission Warranty Provisions" H.R. Rep. No. 628, 93d Cong., 2nd Sess.

assure continued emission warranty coverage.

Although the certification would be made by the part manufacturer and not by EPA, sixty days prior to selling a part as certified, a part manufacturer would be required to send a notice of its intent to certify the part to EPA and to the manufacturer of the vehicles for which the part is to be certified. During this sixty day period, EPA or the affected vehicle manufacturer could object to the certification, in which case more information may be required to be submitted to EPA. If EPA took no action or the manufacturer adequately addressed any questions raised, a part manufacturer would be able to sell the parts as certified without any further communication with the Agency.

Because this would be a self certification program in which EPA would, under normal circumstances, not be directly involved, part manufacturers would be required to establish and maintain records which contain descriptions and results of all certification tests performed on the parts, as well as other information relating to the integrity of the parts and the certification procedures utilized. This information would be available to the Agency upon written request and would be considered by the Agency when making determinations of whether the part should be decertified. The proposed regulations provide criteria and procedures whereby the Agency can decertify parts determined not to be in compliance with these regulations.

III. Specific Provisions

The major sections of the proposed regulations are discussed below.

A. Section 85.2112 General Applicability

Section 85.2112 would provide that all automotive aftermarket parts would be eligible for certification except for those parts which have no effect on vehicle emissions or emission control systems. Thus, under this section virtually all vehicle or engine components that affect emissions, including tires, could be certified. For example, tires with rolling resistance greater than original equipment tires will reduce fuel economy and increase HC and NO_x emission. Thus, if tires are certified as equivalent to original equipment with regard to rolling resistance characteristics, the emission performance as well as fuel economy will not be degraded. The equivalency of rolling resistance of tires may be determined by test methods that are presently being developed by EPA and the industry. EPA invites comment on the inclusion of such parts in this program and the appropriate test procedures that may be used to demonstrate equivalency to original equipment.

The Act provided little guidance as to which parts should be eligible for certification. The Agency's major consideration in this regard was whether to limit the certification program to scheduled maintenance replacement items (i.e., spark plugs, filters, etc.) or whether to include parts not normally scheduled for replacement (i.e., carburetors, distributors, valves, etc.) but which may have to be replaced for some reason during the vehicle's useful life. In addition, consideration was given whether to include modified and add-on high performance specialty parts (i.e., turbochargers, headers, etc.) in this program.

The only guidance provided by section 207(a)(2) of the Act is that the aftermarket part certification regulations are to carry out the purposes of subsection (b), the emission performance warranty. Strictly speaking, the reference to 207(b) could be interpreted as limiting the program to scheduled maintenance replacement items as are necessary for owner's compliance with the written instructions for maintenance and use. This is also the main concern of the aftermarket industry in relation to the performance warranty. However, the Agency believes that a number of significant reasons exist for opening the program up to parts other than scheduled replacement parts. Parts other than scheduled replacement parts are often replaced prior to the end of a vehicle's useful life. Although many of these are replaced under warranty, others are not. For those replacements not covered under warranty, a vehicle owner should not be forced to choose between buying an OE part or risking loss of his or her emission warranty coverage.

Some vehicle owners may wish to replace OE parts with a higher quality replacement part for improved fuel economy, safety, reliability or performance. The Agency believes that a vehicle owner should not be discouraged from upgrading his or her vehicle by the threat of losing emission warranty coverage, provided the replacement part will not adversely affect vehicle emissions.

Of greater concern was the question of whether modified and add-on parts should be eligible for certification. As presently drafted, the proposal would allow these parts to be certified if they will have no immediate or long term adverse effect on emissions.

Some modified and add-on parts are designed to improve vehicle durability, performance and/or fuel economy. The Agency realizes that the installation of these parts, in particular some high performance add-on parts, could affect the durability or performance characteristics of an engine. This in turn may require the modification of the maintenance and use instructions necessary to allow the vehicle to meet emission standards. The Agency will not allow the certification of these parts unless the manufacturers of these parts (i) state that use of their parts will not necessitate a modification of the maintenance and use requirements or (ii) and advise owners of any new maintenance and use requirements that may be necessary.

The Agency expects that the final emission performance warranty regulations will provide that no claim can be denied on the basis of the use of a certified part even if that part is defective. The Agency realizes that additional administrative burdens will be placed on vehicle manufacturers who would be required to repair or replace certified add-on parts. However, the Agency expects the financial burden to be minimal since the certification regulations would require the part manufacturer to reimburse a vehicle manufacturer for such costs.

An outgrowth of allowing modified and add-on parts to be certified is that it would allow a part manufacturer to advise service facilities that the proper installation of these parts would not constitute "tampering" in violation of section 203(a)(3) of the Act. The Agency invites public comment on the inclusion of "modified" and "add-on" parts in this program.

B. Section 85.2114 Basis of Certification

The proposal would set forth two bases upon which an aftermarket part could be certified. As stated previously, certification would be based on equivalency of a part's parameters that are critical to emissions or on back-to-back emission testing. Both bases are designed to assure that the proper installation of the part would not cause a vehicle's emissions to "increase" for the replacement interval of the part or for the useful life of the vehicle. This would assure owners of continued emission warranty coverage for vehicles which are maintained and repaired with certified parts. Similarly, it should prevent vehicle manufacturers from having to incur nonreimbursable expenses in performing emission warranty repairs for situations over which they have no control.

The Agency considered allowing parts to be certified, even if they caused vehicle emissions to be increased, providing that the part would not cause a vehicle to exceed emission standards for any regulated pollutant. The Agency rejected this approach because it would limit EPA's control over the total emissions of in-use vehicles. A single certified aftermarket part could cause a vehicle's emissions to increase without exceeding emissions standards. However, owners would be free to install many of these parts on their vehicles. Such vehicles, because of cumulative increases in emissions, could fail an I/M test with resulting emission warranty liability for the vehicle manufacturer. Although a vehicle manufacturer would have the right to recover from a part manufacturer for warranty claims necessitated because of the use of the certified part, it would be impractical to determine which part caused the emissions failure. As a result, one aim of the certification program would be to assure that certified parts do not cause vehicle emissions to increase.

The Federal Test Procedure (FTP). (see 40 CFR Part 86) has been the primary means of assessing the impact of a part on vehicle emissions. However, the time, expense and burden of subjecting many aftermarket parts to the FTP is prohibitive to much of the industry and is unnecessarily technical. As a result, the proposal would provide for aftermarket part manufacturers to demonstrate that their parts do not cause vehicle emissions to increase by showing that the emission critical parameters of the aftermarket part are equivalent to those of the OE part(s) it is replacing. It will be assumed that parts which demonstrate equivalent emission critical parameters will evidence similar emissions. We anticipate this to be the predominant means of certification.

An alternative method based on back to back FTP emission testing of the vehicles with and without the part to be certified would be permitted for parts where emission critical parameters have not yet been defined.

Section 85.2122 identifies those parts which presently would be eligible to be certified on the basis of equivalency of emission critical parameters, and lists the relevant parameters for those parts. The parts and related standards included in the proposal are based in great part on proposed standards provided by technical subcommittes of the ALC, the Automotive Products Emissions Committee (hereinafter "APEC"). APEC formed committees to identify the critical parameters for the parts that they believed should be included in the Certification Program. These subcommittees were composed of various manufacturers and distributors of these parts, as well as representatives of the vehicle manufacturers. The Agency reviewed these standards and incorporated modification where necessary. The parameters and procedures have been reviewed by the technical staff of the Office of Enforcement, Office of Mobile source Air Pollution Control and a private automotive consultant. We have determined the proposed standards to be valid for the purposes of this program. Copies of the minutes of the committee meetings and a document explaining the EPA changes to the standards are included in the Public Docket.

The standards submitted by APEC also included the critical parameters and the tests, which may be performed by a part manufacturer to demonstrate compliance with the standards. The Agency is receptive to the use of other methods to demonstrate compliance with the standards. Therefore, methods which are equally as valid and accurate as the EPA recommended tests would be allowed, provided that a description of those test methods is included in the notice of intent to certify.

From time to time EPA will promulgate additional part standards. Any party wishing to submit emission related standards for a part, other than those included in today's proposal, should do so by sending a copy to the Director, Mobile Source Enforcement Division (EN–340), U.S. Environmental Protection Agency, 401 "M" Street, SW., Washington, D.C. 20460. The Agency will review the standards and may, in its discretion, propose standards for such part(s).

To certify a part on the basis of emission testing, a part manufacturer would be required to perform back-to-back emission tests. Section 85.2114 would require at least two tests be performed on a vehicle set to the proper manufacturer's specifications and containing only original equipment parts. At least two *additional* tests would be performed in the identical manner as the previous tests except that the aftermarket part which is to be certified would be installed in or on the vehicle. The results of these tests would have to show that the proper installation and use of the certified part would not cause vehicle emissions to increase. To account for test-to-test variability, a part would be considered not to increase a vehicle's emissions if the mean results of the latter tests (with the certified part) do not exceed the mean results of the former tests (with OE parts only) by the amounts specified.[2] In addition, the mean of the test results with the aftermarket part must not exceed the applicable emission standard for any pollutant.

The determination of the number of emission tests required does not provide the level of confidence that might be necessary for other Agency programs. It does, however, represent a balancing of the certifier's burden in light of the vehicle manufacturer's potential liability. In an attempt to reduce the testing burden where feasible, § 85.2114(b)(5) would permit the certifier to apply the emission test results to other vehicle or engine configurations upon a showing that the configuration tested represents the "worst case" with respect to emissions. The rationale and data supporting this worst case determination must be provided to the agency in the notice of intent to certify. The Agency does not want to specify nor limit the type of data or analysis that may be used to support this conclusion. However the "B" selection criteria recently proposed by the Office of Mobile Source Air Pollution Control [3] for abbreviated vehicle certification, represents one acceptable means of evaluating a worst case configuration. This concept is applied similarly in EPA vehicle certification and the California aftermarket parts program. Public comment on the stringency of this requirement is invited.

The proposal provides that the only emission test that can be used as a basis for certification is the Federal Test Procedure as set forth at 40 CFR Part 86. The proposal sets forth a few instances where performance of portions of the FPT are irrelevant and, therefore, may be waived. In addition, the proposal would allow other portions to be waived upon request to and written approval by EPA. The Agency is interested in receiving comments on additional instances in which portions of the FTP

[2] Test-to-test variability is a concept dependent on numerous factors, primary of which are the test facility, applicable standards and the vehicle tested. Therefore, there are no universally accepted set of numbers that quantify this phenomenon. The percentages used in the proposal represent a general composite of the analyses done in this area by EPA and others. These can be found in the Public Docket EN–79–8 Category Numbers V–22 thru 28. In order to minimize any additional adverse impact on exhaust emission, EPA chose 10% for all other regulated pollutants for which test-to-test variability data do not exist.

[3] Guidelines proposed March 20, 1979, for *Exhaust Emission Light-Duty Vehicles and Light-Duty Trucks*. These guidelines are available, in the Public Docket or upon written request to: Director, Mobile Source Enforcement Division, U.S. Environmental Protection Agency, Washington, D.C. 20460.

should be uniformly waived for a particular type of aftermarket part.

The Agency gave some consideration to allowing parts to be certified on the basis of an emissions "short test" which correlates with the FTP. This approach was rejected on the basis that the short tests were developed to identify whether a vehicle would pass the FTP rather than being able to measure emission values. As previously stated, for the purposes of part-certification it is inadequate to merely know that the use of a part will not cause a vehicle to exceed emissions standards. In addition, some of the short tests only measure hydrocarbon (HC) and carbon monoxide (CO) emissions and not oxides of nitrogen (NO_x) emissions which many parts substantially affect.

C. Section 85.2115 Notification of Certification

The program would be voluntary with the certification testing conducted by the certifying manufacturer. Although the Agency will normally not be directly involved in this process, it is important that EPA, as well as the affected vehicle manufacturers, be aware of which parts are certified and for which vehicles the parts are certified. Section 85.2115 provides that, at least 60 days prior to the sale of any certified part the Agency and the manufacturer of every model vehicle for which the part is to be utilized must receive notice of a part manufacturer's intent to certify. During this period, the Agency and the affected vehicle manufacturer may review the information in the notification and raise any concerns that either may have. If no action is taken by the Agency during this 60 day period, the part manufacturer could begin marketing the part(s) as certified.

This section also requires that the notice contain provisions stating that the part manufacturer will comply with all of the terms of the certification program. In particular EPA is concerned that part manufacturers acknowledge and agree to ultimately accept responsibility for emission warranty liability that accrues as a result of their parts. The Agency believes that all of the information required in the notification is relevant and necessary.

D. Section 85.2116, Objections to Certification

At any time during the 60 day period between receipt by the Agency of a notice of intent to certify a part and the intended first day of sale of that part, the Agency may notify the part manufacturer that the part may not be sold as certified, pending further investigation. Sections 85.2116(a)(1)–(6) set forth the bases upon which the Agency will send such notice. The Agency will probably only become involved in the certification process when the notices are incomplete, when certification tests appear inadequate, when substantiated objections are presented to the Agency by vehicle manufacturers or, when consumers have reported problems with similar parts in the past.

Subsection (b) would allow any interested party to comment, in writing, on any part certification. This subsection also provides that the Director of the Mobile Source Enforcement Division (hereinafter Director), in his or her discretion, may allow oral presentations. The format of these oral presentations would be determined by the Director. The Director may request data or evidence in support of an objection to certification raised by any party.

After the Director has decided whether a contested part may be certified, he or she will notify the part manufacturer, and other interested parties, of his or her decision in writing. This notification will include the basis upon which the decision was made.

Any party adversely affected by such a decision may appeal the decision to the Deputy Assistant Administrator for Mobile Source and Noise Enforcement or his or her delegate.

E. Sections 85.2117 and 85.2122 Emission Related Standards

These sections identify the parameters for those parts which could be certified in accordance with § 85.2114(a)(1). As parameters are identified for other parts, they will be added to this section. Section 85.2122(b) has been set aside for add-on parts for which parameters may be appropriately identified in the future.

Modified parts, in accordance with the definition of § 85.2113, present several unique situations. An exhaust header, for example, may replace an exhaust system component or components in a substantially different configuration from the original configuration for the primary purpose of increased vehicle performance. In this case, the part would be both a modified and an add-on part. Thus, subsection (d) would require that such a part meet all applicable parameters.

An advanced electronic ignition system, for example, which eliminates multiple ignition system parts and which is capable of firing the spark plugs at the proper timing and intensity would not have to meet all the relevant parameters of the replaced parts. Only the input/output characteristics of the new "system" would have to meet those of the original parts it replaces. Subsection (c) is intended to address this situation.

F. Section 85.2119 Labelling Requirements.

All certified parts shall have the words "Certified to EPA Standards" on the part and the packaging of the part. EPA is not requiring that certified parts have equivalent maintenance and replacement intervals to the original equipment parts they replace. Therefore, parts certified for a lesser service interval than an OE part must be accompanied with instructions that appropriately advise the purchaser of the maintenance schedule changes. In addition, if a written warranty is not to be provided with the part, the packaging of the part must be so labelled. If a written warranty is provided, then the part manufacturer should comply with the labelling requirements of the Magnuson Moss Act and the regulations thereunder.

Other information required to be printed on the part and/or the packaging for that part is specified in this section. The Agency believes that all of this information is necessary for consumers to properly use the part.

G. Section 85.2120 Maintenance and Submittal of Records.

Because this is a self-certification program, questions may arise as to whether a part was properly certified initially or should subsequently be decertified. Therefore, any part manufacturer who chooses to certify parts would be required to establish and maintain records regarding each certified part. These records would have to be made available to the Agency upon written request.

The Agency believes that all of the specified records are necessary to determine the adequacy and validity of the basis upon which parts have been certified. Most of the data that would be required to be maintained would be generated during any certification process conducted in accordance with sound engineering procedures. The Agency does not believe that this record keeping requirement is burdensome.

H. Section 85.2121 Decertification

The certification is voluntary and is made by the part manufacturer. However, because of the possible adverse impacts of improperly certified parts, the Agency is retaining the right to decertify any part for the reasons enumerated in § 85.2121(a)(1).

Decertification will not occur until a part manufacturer has an opportunity to present information and data in support of continued certification. The decertification process will commence when written notice is provided to the part manufacturer indicating the Agency's basis for considering possible decertification. If the part manufacturer wishes to contest this decision, it may provide a written statement addressing why the part should remain certified. Similar to the hearings pursuant to § 85.2116 of the proposal, an opportunity to present oral arguments may be granted at the discretion of the Director. In addition, a party adversely affected by such a decision shall also have an appeal right similar to the one provided in § 85.2116.

Once a final decision to decertify a part has been received by the part manufacturer, the manufacturer would be required to notify its immediate customers (other than retail customers) and offer to replace the decertified parts remaining in the possession of the immediate purchaser with properly certified parts. If no properly certified parts are available, then the part manufacturer must offer to repurchase the decertified parts. This requirement will limit the number of vehicles which will exceed emission standards and fail I/M tests as a result of the decertified part. In the Agency's opinion, any replacement or repurchase of parts beyond the immediate customers would become complicated and ineffective.

Regardless of whether a part is eventually decertified, any part previously sold as certified will remain certified. As such, no 207(b) emission warranty claim may be denied on the basis of the use of that part.

IV. Other Significant Issues

If part manufacturers are permitted to advertise their parts as certified, the Agency believes that some protection to the consumer must be provided. This raises the issue of whether a part manufacturer should be required to provide some warranty with parts as a condition to certification. Two approaches were considered. One was to require that the part manufacturer provide a warranty directly to the consumer. The warranty could either be a general warranty covering all aspects including performance, or one that warrants that the part will not cause vehicle emissions to be increased. This approach was rejected for a number of reasons. The aftermarket industry has stated that a warranty requirement may make it impossible for small manufacturers to certify their parts because of the expenses and difficulties in setting up warranty claim procedures as well as procedures for investigating questionable claims. Another problem with this approach is that it would require independent part manufacturers to provide a warranty, and build the cost into the price of their parts, which original equipment manufacturers presently do not have to provide except with regard to those parts installed on the vehicle as delivered. The Agency believes that this may be beyond the purpose of the certification program which is to allow independent part manufacturers to compete on an equal basis with original equipment manufacturers. Instead, the proposal takes an alternative approach. The proposal provides that a participating parts manufacturer would have to agree to reimburse a vehicle manufacturer for any emission warranty expenses incurred as a direct result of a certified part's failure to perform adequately. This measure will give the automobile manufacturer, who under the 207(b) warranty regulations will not be able to deny emission warranty claim on the basis of use of a certified part, added assurance that he will be reimbursed for cost incurred as a result of a failure of the certified part. This added assurance should make the automobile manufacturers more willing participants in the 207(b) warranty program. Under the Section 207(b) warranty regulations as proposed, vehicle owners would not be faced with the situation of being bounced back and forth between part manufacturers and vehicle manufacturers in an attempt to recover. Similarly, the owner would not have to argue the merits of a part claim with the part manufacturer who may be several layers (through distributors) removed from the retail establishment from which the part was originally purchased.

Despite the emission warranty protection and the labelling requirements proposed, EPA recognized that consumers may still be misled as to the significance of parts being "certified to EPA standards." We may ultimately determine that some form of additional warranty protection is necessary. For the purposes of this proposal, the warranty requirements will be as stated in the regulations. The Agency requests comments on this issue and will consider requiring a full warranty with certified parts in the final regulations.

Another issue of significant impact is whether the program should allow a part manufacturer to certify a part which has a replacement or maintenance interval different from the original equipment part it is to replace. The Agency realizes that there are persuasive arguments which can be made on both sides of this issue. For instance, allowing differing replacement intervals would alter the vehicle's maintenance schedule and could confuse vehicle owners. This could result in parts which are certified for shorter intervals than the OE part, being left in a vehicle for the full interval in the owner's manual with a resulting adverse impact on emissions. Although there will always be some confusion, we believe that adequate labelling would limit vehicle owner difficulties in this regard.

Arguments weighing against requiring aftermarket part manufacturers to certify their parts to the OE part's replacement interval also exist. For instance, there may be antitrust questions associated with designating the OE manufactuers recommended service intervals as the service intervals that must be specified by the aftermarket industry for replacement parts. In addition, we do not want to deny vehicle owners the opportunity to purchase parts which, if replaced or serviced more often, will work as effectively or even better than the original equipment parts. Certainly, the Agency would not want to discourage aftermarket manufacturers from manufacturing higher quality part with longer replacement or service intervals. Therefore, in most instances the proposal would allow aftermarket part manufacturers to determine the replacement and service intervals of their parts.

Presently, EPA regulations on the certification of motor vehicles require minimum mileage maintenance and replacements intervals for certain items. In addition, regulations have been proposed for heavy duty engines and light duty trucks which specify minimum allowable service or replacement intervals for parts. The Agency believes that holding vehicle manufacturers to these maintenance interval requirements, while allowing certified replacement parts to be sold that require more frequent servicing or replacement, would defeat the purposes of the regulations setting forth these intervals. Therefore the proposal would provide that no part may be certified that requires servicing or replacement more frequently than any minimum interval specified for that part by any regulation in Part 86 of Title 40 of the United States Code of Federal Regulations.

This does not mean that a part manufacturer would no longer be able to sell replacement parts with a lesser service or replacement interval. It only means that such parts would not be

eligible for certification in accordance with these regulations.

V. Environmental Impact

The Agency expects no adverse environmental impacts as a result of these regulations. These regulations, although primarily directed to addressing potential anticompetitive effects of other enforcement programs, may lead to some air quality benefits to the extent that they would foster further quality control in the automotive aftermarket industry. No voluntary environmental impact statement (EIS) has been prepared pursuant to EPA guidelines set forth in 39 FR 37419.

VI. Reporting and Recordkeeping Requirements

These regulations do impose new reporting and recordkeeping requirements on aftermarket part manufacturers that choose to take advantage of the certification program. A Reports Impact Analysis has been prepared and is included in the Public Docket. As previously stated, the Agency does not believe that these requirements are excessive, however the Agency specifically invites comments on ways that these requirements might be reduced.

Under the EPA's new "sunset" policy for reporting requirements in regulations, any reporting requirements in this regulation will automatically expire five years from the date of promulgation unless EPA takes affirmative action to extend them. To accomplish this, a provision automatically terminating the reporting requirements at that time will be included in the text of the final regulations.

VII. Evaluation Plan

The Agency intends to review the effectiveness and need for continuation of the provisions contained in this action no more than five years after initial implementation of the final regulations. In particular, the Agency will solicit comments from the affected parties concerning how well the program is serving the purpose of limiting the anticompetitive effects of the emission warranties. In addition, the Agency will be interested in determining the consumer protection implications of the program as well as what effect the program is having on in-use compliance of motor vehicles with emission standards, including any increase or decrease in burdens the program may be putting on motor vehicle manufacturers.

VIII. Public Hearings.

Notice is hereby given that there will be public hearings on the proposed Certification Program. The purpose of these hearings is to provide all interested parties with an opportunity to provide an oral statement on the record regarding any aspect of the proposal. Any party desiring to make a statement at the hearing should notify the Agency of his or her intention along with an outline of the points to be discussed and the time needed to discuss these points. This information should be received by the Director, Mobile Source Enforcement Division (EN-340), U.S. Environmental Protection Agency, 401 "M" Street, SW., Washington, D.C. 20460, no later than 10 days prior to the hearing. As time permits, any party not filing a notice of intent shall be allowed to give a presentation after the completion of the presentations of those who have filed a notice of intent.

Since the public hearing is designed to give interested persons an opportunity to participate in this rulemaking process by the presentation of data, views, arguments, or other pertinent information concerning the proposed regulations, there are no adversary parties as such. Statements by the participants will not be subject to cross examination. However, a panel of agency representatives may ask participants questions concerning their statements. Members of the audience will be provided an opportunity to submit questions to the panel which the panel, in its discretion, may ask the participant. The Presiding Officer is authorized to strike from the record statements which he deems irrelevant or needlessly repetitious, and to impose reasonable limits on the duration of the statement of any witness.

A verbatim record of the proceeding will be made. A copy of the transcript can be requested from the reporter during the hearing and will be made at the expense of the person so requesting.

Note.—The Agency has determined that this document is not a "significant regulation" requiring the preparation of a Regulatory Analysis under Executive Order 12044. An Economic Analysis has been prepared and is included in the Public Docket. The Analysis concluded that this program will not have a significant adverse economic impact on any party. However, the Agency invites any comments on the anticipated costs of this program.

Dated: July 31, 1979.

Barbara Blum,

Acting Administrator.

Accordingly, notice is hereby given that proposed Subpart V of Part 85 of Title 40 is proposed to be revised by the addition of the sections set forth below.

Subpart V—Emission Control System Performance Warranty Regulations and Voluntary Aftermarket Part Certification Program

Sec.

85.2112 Applicability.
85.2113 Definitions.
85.2114 Basis of Certification.
85.2115 Notification of Certification.
85.2116 Objections to Certification.
85.2117 Emission Related Standards.
85.2118 Changes After Certification.
85.2119 Labelling Requirements.
85.2120 Maintenance and Submittal of Records.
85.2121 Decertification.
85.2122 Emission Critical Parameters.

Authority.—Secs. 207 (42 U.S.C. 7541), 208 (42 U.S.C. 7542) and 301 (42 U.S.C. 7601); Clean Air Act.

§ 85.2112 Applicability.

The provisions of this subpart to all automotive aftermarket parts that affect:

(a) The emissions of new motor vehicles or new motor vehicle engines to which regulations under section 202 apply or

(b) Any device or system which has an effect on motor vehicle or motor vehicle engine emissions.

§ 85.2113 Definitions.

(a) As used in this subpart, all terms not defined shall have the meaning given them in the Act:

(1) "Act" means Part A of Title II of the Clean Air Act, 42 U.S.C. 7421 *et seq.* (formerly 42 U.S.C. 1857 *et seq.*) as amended.

(2) "Add-on Part" means any automotive aftermarket part which is not a modified part or a replacement part and for which there is no original equipment equivalent.

(3) "Aftermarket Part" means any part offered for sale for installation in or on a motor vehicle or motor vehicle engine after such vehicle or engine has left the production line.

(4) "Aftermarket Part Manufacturer" means

(A) A manufacturer of an aftermarket part or

(B) A party that markets aftermarket parts under its own brand name or

(C) A rebuilder of original equipment or aftermarket parts.

(5) "Agency" means the Environmental Protection Agency.

(6) "Deputy Assistant Administrator" means the Deputy Assistant Administrator for Mobile Source and Noise Enforcement of the Agency or his or her delegate.

(7) "Certified Add-on Part" means any add-on part which has been certified pursuant to this subpart.

(8) "Certified Modified Part" means any modified part which has been certified pursuant to this subpart.

(9) "Certified Replacement Part" means any aftermarket replacement part which has been certified pursuant to this subpart.

(10) "Director" means the Director of the Mobile Source Enforcement Division of the Office of Enforcement of the Agency or his or her delegate.

(11) "Emission Warranty" means those warranties given by vehicle manufacturers pursuant to section 207 of the Act.

(12) "Emission Related Standards" means those critical parameters and tolerances which, if equivalent from one part to another, will not alter a vehicle or engine's emissions with such parts installed.

(13) "Engine Family" means the basic classification unit of a vehicle or engine manufacturer's product line for a single model year used for the purpose of emission-data vehicle or engine selection and as determined in accordance with 40 CFR 86.078–24.

(14) "Modified Part" means any automotive after-market part(s) intended to replace an original equipment part(s) and which is not identical to the original equipment part(s) in all respects but which performs the same basic function as the original part(s).

(15) "Vehicle or Engine Configuration" means the specific subclassification unit of an engine family as determined by differences in engine displacement, fuel system, engine code, transmission and inertia weight class as applicable.

§ 85.2114 Basis of Certification.

(a) An automotive aftermarket part manufacturer may certify a part either:

(1) On the basis of demonstrating conformance of that part with all of the relevant Emission Related Standards set forth for that part in §§ 85.2117 and 85.2122; or

(2) On the basis of performing emission tests in each applicable vehicle or engine configuration for which the part is to be certified in accordance with the requirements of this section.

(b) The only emission test on which certification can be made pursuant to paragraph (a)(2) of this section shall be the Federal Test Procedure as set forth in the applicable portions of 40 CFR Part 86 (except as provided in paragraph (a)(3) of this section).

(1) At least four emission tests shall be required in order to certify an aftermarket part pursuant to paragraph (a)(2) of this section. At least two tests shall be performed on a vehicle containing only original equipment parts and set to all the vehicle manufacturer's specifications. At least two additional tests shall be performed according to the Federal Test Procedure on the same vehicle set to the vehicle manufacturer's specifications, except for the installation of the automotive aftermarket part which is to be certified.

(2) The test results must demonstrate that the proper installation of the certified aftermarket part will not cause vehicle emissions to be increased. For the purposes of this subpart, this will be demonstrated if the mean emission levels of all tests with the aftermarket part do not exceed the applicable emission standard for any regulated pollutant *and* that the mean of the tests with the aftermarket part does not exceed the mean of the tests with the original parts by more than the following amount for each pollutant:

(i) Carbon Monoxide—20 pct
(ii) Hydrocarbon—15 pct
(iii) Oxides of Nitrogen—10 pct
(iv) Evaporative loss—20 pct
(v) All other regulated pollutants—10 pct

(3) The following portions of the Federal Test Procedure are not required to be performed when certifying a part in accordance with paragraph (a)(2) of this section:

(i) Compliance with evaporative emissions standard if the part to be certified is an ignition system component and the manufacturer of that part has a reasonable basis for believing that the use of the part has no effect on the vehicle's evaporative emissions,

(ii) Compliance with exhaust emissions standard if the part manufacturer has a reasonable basis for believing that the part affects only the evaporative emissions of a vehicle or engine,

(iii) Other portions therein which the part manufacturer believes are not relevant provided that the part manufacturer has requested and been granted a waiver in writing by the Director.

(4) For the purpose of the certification of parts on the basis of emission testing for use in vehicle or engine configurations other than those tested under paragraph (a)(2) of this section, the certifier may apply the results of tests performed under paragraph (a)(2) of this section upon a showing that the configuration tested represents the "worst case" with respect to emissions of those configurations for which the results are to be applicable.

(i) Such a showing shall include:

(A) A technical discussion that supports the conclusion that the configuration tested represents the worst case and

(B) All data that support the above conclusion.

(ii) The worst case configuration shall be that configuration which is least likely to meet the applicable emission standards amongst those configurations for which the emission test results under paragraph (a)(2) of this section are to be applied. This determination:

(A) Shall be based on a technical judgement of the impact of the particular design or calibration of a particular parameter or combination of parameters and/or an analysis of appropriate data, and

(B) Shall only be applicable for Configurations that are required to meet the same or less stringent (higher) emission standards than those applicable to the configuration tested.

(c) Before a part may be certified pursuant to ths subpart, evidence must exist to demonstrate that such a part will not cause a vehicle's emissions to increase for the full interval for which the part is to be certified.

(1) For parts without a scheduled replacement, this interval shall be the useful life of the motor vehicle or motor vehicle engine.

(2) If a Recommended Durability Procedure is contained in the Appendix for a part, then that test or another test of equivalent validity and reliability must be used to demonstrate the durability of the part.

(3) An aftermarket part manufacturer may use reasonable engineering analyses or testing to demonstrate durability for all parts for which no Recommended Durability Procedure is contained in the Appendix.

(4) If any provision of 40 CFR Part 86 establishes a minimum replacement or service interval for a part during vehicle or engine certification, then no aftermarket part of that type may be certified with a shorter replacement or service interval.

(d) An aftermarket part manufacturer may certify a part on the basis of conformance with all Emission Related Standards only after the part manufacturer has performed such tests, analyses, or other procedures necessary to ascertain with a high degree of certainty the emission critical parameter specifications and tolerances for the original equipment part for which a certified part is to be a replacement.

(1) If information is available to identify the applicable emission critical

parameters, the prospective certifier must use such information.

(2) If sampling and analysis of original equipment parts is relied upon, the prospective certifier must use sound statistical sampling techniques to ascertain the mean and range of the applicable emission parameters.

(e) Any replacement part certified pursuant to § 85.2114(a)(1) shall be installed in or on a vehicle in the same manner as the original equipment part.

(f) Installation of any certified part shall not result in the removal or rendering inoperative of any original equipment component, require the readjustment of any component to other than the original manufacturer specifications, cause or contribute to an unreasonable risk to the public health, welfare or safety, or result in any additional range of parameter adjustability or accessibility to adjustment than that of the original equipment manufacturer's in-service replacement parts.

(g) Certification in accordance with § 85.2114(a) (1) or (2) must be based upon tests utilizing representative production aftermarket parts selected in a random manner in accordance with accepted statistical procedures.

§ 85.2115 Notification of Certification.

(a) At least sixty days prior to the sale of any certified automotive aftermarket part, notification of the intent to certify must be received by the Agency and the manufacturer of every vehicle or engine for which the part is to be utilized.

(1) The notification shall include:

(i) Identification of each part to be certified, including the part number as assigned by the aftermarket part manufacturer and by the original equipment manufacturer.

(ii) Identification of all vehicle or engine configurations for which the part is being certified including make(s), year(s), engine size(s) and all other specific configuration characteristics necessary to assure that the part will not be installed in any configuration for which it has not been certified.

(iii) A description of the tests and methods utilized to demonstrate compliance with §§ 85.2114(a) (1) and 85.2114(c); *except that,* if the proceure utilized is recommended in the Appendix, then only a statement advising of such is necessary. If certification is sought in accordance with § 85.2114(a)(2), the results of all emission tests performed shall be included. Include a description of all statistical analyses used to determine the emission critical parameters of the original equipment parts and compliance of the certified part(s) with those parameters including numbers of parts tested, selection criteria, means, variance, etc.

(iv) A statement that the aftermarket part manufacturer shall reimburse a manufacturer of any vehicle or engine for which a part is certified for all reasonable expenses incurred by the vehicle manufacturer as a result of honoring an emission warranty claim resulting from the failure of the certified part.

(v) A statement of agreement to all the relevant terms and conditions of this subpart.

(vi) The service intervals of the part, including maintenance and replacement intervals in months and/or miles as applicable if different than the original equipment requirements.

(vii) A statement, if applicable, that the part will not meet the labelling requirements of § 85.2119(a) and a description of the markings the aftermarket manufacturer intends to put on the part in order to comply with § 85.2119(b).

(viii) The information required pursuant to § 85.2114(b)(4) if applicable.

(ix) The office or officer of the part manufacturer authorized to receive correspondence regarding certification requirements pursuant to this subpart.

(2) Notification to the Agency and vehicle or engine manufacturers shall be by certified mail or another method by which date of receipt can be established.

(3) The notice shall be submitted to:

(i) Director, Mobile Source Enforcement Division (EN–340), 401 "M" Street, S.W., Washington, D.C. 20460.

(ii) The vehicle manufacturer's home office. A list of the home offices of each vehicle manufacturer may be obtained upon request to the Director, Mobile Source Enforcement Division, (EN–340), Environmental Protection Agency, 401 "M" Street, S.W., Washington, D.C. 20460.

(b) A part may be sold as certified sixty days after the receipt by the Agency of the notice given pursuant to this subsection provided that the Agency has not notified the part manufacturer otherwise.

§ 85.2116 Objections to Certification.

(a) At any time prior to the end of the sixty day period after a notification of intent to certify an aftermarket part is received by the applicable parties as specified in § 85.2115, the Director may notify the manufacturer of the aftermarket part that such aftermarket part may not be certified pending further investigation. The basis upon which this notification shall be made may include, but not be limited to, the following:

(1) Tests sufficient to demonstrate compliance with the applicable Emission Related Standards were not performed or if performed such test results did not indicate compliance with the requirements of this subpart.

(2) The part is to be certified on the basis of emission testing, and the procedure used in such tests was not in substantial compliance with those portions of the Federal Test Procedure not waived pursuant to § 85.2114(b).

(3) Use of the certified part will cause a vehicle's emissions of any regulated pollutant to be increased (as determined under § 85.2114(b)(2)).

(4) The durability requirement of § 85.2114(c) has not been complied with.

(5) Use of the certified part could cause or contribute to an unreasonable risk to public health, welfare or safety in its operation or function.

(6) Installation of the certified part requires procedures or equipment which would likely cause it to be improperly installed under normal conditions or would likely result in a vehicle being in a state of misadjustment.

(7) Information and/or data required in the Notification of Certification, Section 85.2115, have not been provided.

(b) The aftermarket part manufacturer or any interested party, may respond in writing to the statements made in the notification by the Director, or the aftermarket part manufacturer shall withdraw its notice of intent to certify. The Director may, at his or her discretion, allow oral presentations by the aftermarket manufacturer or any interested party in connection with a contested part certification.

(c) If a notification has been sent to an aftermarket part manufacturer pursuant to paragraph (a) of this section, the Director shall, after reviewing all pertinent data and information, inform the aftermarket part manufacturer in writing as to whether such part may be certified and under what conditions the part may be certified. The notification shall include an explanation upon which the decision was made.

(1) The notification shall be sent to all identified interested parties.

(2) Within 20 days of receipt of a decision made pursuant to this subsection, a party may file a written appeal to the Deputy Assistant Administrator. The Deputy Assistant Administrator may, in his or her discretion, allow additional oral or written testimony, prior to rendering a final decision.

(3) If no party files an appeal with the Deputy Assistant Administrator, then

the decision of the Director shall be final.

§ 85.2117 Emission Related Standards.

(a) A replacement part may be certified in accordance with § 85.2114(a)(1) only if the part's emission critical parameters as set forth in § 85.2122(a) are equivalent to those of the original equipment part it is to replace.

(b) An add-on part may be certified in accordance with § 85.2114(a)(1) only if the part's emission critical parameters meet the specifications set forth in § 85.2122(b).

(c) A modified part may be certified in accordance with § 85.2114(a)(1) only if the part meets the applicable parameters of § 85.2122 for each part or parts which the modified part is to replace. If a modified part is to replace more than one part or an entire system, compliance must be demonstrated for all emission critical parameters involved, except those which relate solely to the interface between the parts being replaced by the modified part.

(d) A part which serves both as a modified part and as an add-on part must comply with all of the requirements of paragraphs (b) and (c) of this section. A certifier of a modified or add-on part must have evidence that such parts will not adversely impact the durability of any emission control device, engine or the vehicle upon which such parts are installed.

(e) Compliance with the Emission Related Standards may be demonstrated by compliance with the relevant Test Procedure and Criteria specified in the Appendix. An aftermarket part manufacturer may choose to utilize other tests and methods to demonstrate compliance with § 85.2114(a)(1) provided that the tests and methods are of equal validity and reliability to those provided in the Appendix.

§ 85.2118 Changes after certification.

The aftermarket part manufacturer shall be required to recertify any part which:

(a) Was certified pursuant to § 85.2114(a)(1) and modifications are subsequently made to the part which could affect the results of any test or judgement made that the part meets all the applicable Emission Related Standards.

(b) Was certified pursuant to § 85.2114(a)(2) and modifications are made to the part which affect emissions.

(c) Was certified and is subsequently modified in a manner affecting the durability of the part or any emission control device, engine or the vehicle upon which such parts are installed.

§ 85.2119 Labeling requirements.

(a) Except for those components specified in paragraph (b) of this section, each part certified pursuant to these regulations shall have "Certified to EPA Standards" and the name of the aftermarket part manufacturer placed conspicuously on the part.

(b) Parts that are too small for the information required in paragraph (a) of this section to be placed conspicuously on the part, must contain identification markings that can be referred to the information required in paragraph (a) of this section. Notification that such marking is intended in lieu of the information required above, must be made to the Agency. The Agency may not allow the part manufacturer to use such markings if it determines that the parts are of sufficient size to comply with paragraph (a) of this section.

(c) The package in which the certified aftermarket part is contained must have the following information conspicuously placed thereon:

(1) The name of the manufacturer,

(2) The statement "Certified to EPA Standards",

(3) A list of the vehicles or engines (in accordance with § 85.2115(a)(1)(ii)) for which the part has been certified,

(4) A statement of the service interval for which the part has been certified,

(5) A description of the services necessary to be performed on the part in the proper maintenance and use of the part only if such services are in addition to or different from those services necessary to be performed on the original equipment part. For modified and add-on parts, the certifier must identify any other vehicle or engine maintenance and use instructions which will be altered (ie., proper fuel, oil change interval, etc.) as a result of the use of such parts,

(6) The instructions for proper installation,

(7) If a written warranty running to the consumer is not provided with the part, the following statement must be included: "This certification only assures continued emission warranty coverage for your vehicle (engine) and is not an express warranty."

(d) The information required by paragraphs (c)(5) and (6) of this section may be provided on a written insert with the certified aftermarket part if that the insert also contains the information required in paragraphs (c) (1), (2) (3) and (4) of this section.

(e) When an aftermarket part manufacturer desires to certify existing in service stocks of their products, they may do so provided:

(1) The part does not differ in any operational or durability characteristic from the aftermarket parts specified in the notification made pursuant to § 85.2115 and

(2) A supplemental information sheet is made available with all parts sold as certified and that such sheet complies with all requirements of paragraph (c) of this section.

§ 85.2120 Maintenance and submittal of records.

(a) For each certified aftermarket part, the manufacturer of such part must establish, maintain and retain for 5 years the following adequately organized and indexed records:

(1) detailed production drawings showing all dimensions, tolerances, performance requirements and material specifications and any other information as is necessary to completely describe the part,

(2) A description of the testing program, including all production part sampling techniques used to verify compliance of the certified aftermarket part with the applicable Emission Related Standards and Durability Requirements,

(3) All data obtained during testing of the part and subsequent analyses based on that data, including the mileage and the vehicle or engine configuration determinants if emission testing is utilized as the basis for certification,

(4) All information used in determining those vehicles for which the part is represented as being equivalent from an emissions standpoint to the original equipment part,

(5) A description of the quality control plan used to monitor production and assure compliance of the part with the applicable certification requirements,

(6) All data taken in implementing the quality control plan, and any subsequent analyses based on that data,

(7) A description of all the methodology, analysis, testing and/or sampling techniques used to ascertain the emission critical parameter specifications of the original equipment part,

(8) All in-service data, internal analyses or correspondance with subvendors, distributors, consumers, retail outlets or vehicle manufacturers regarding any design, production or in-service problems associated with any certified part,

(9) A list of all claims made by vehicle manufacturers for reimbursement for expenses incurred as a result of providing an emission warranty remedy

necessitated by a certified part. Such list shall include:

(i) A description of the part(s) involved and the vehicle or engine configuration from which it was removed,

(ii) A description of the basis upon which the claim was made,

(iii) The final disposition of each claim including the costs involved in honoring the claim.

(b) The records required to be maintained in paragraph (a) of this section shall be made available to the Agency upon written request.

§ 85.2121 Decertification.

(a) The Director may notify an aftermarket part manufacturer that the Agency has made a preliminary decision to decertify one or more parts.

(1) Such a preliminary decision may be made if there is reason to believe that:

(i) Tests required to be performed to demonstrate compliance of the part with the applicable Emission Related Standards

(A) Were not performed on the part(s) or,

(B) Were insufficient to demonstrate compliance.

(ii) The part was certified on the basis of emission tests and:

(A) The procedures used in such test were not in substantial compliance with a portion or portions of the Federal Test Procedure which were not waived pursuant to § 85.2114(b)(3), or

(B) The emission results were not in compliance with the requirements of § 85.2114(b).

(iii) Use of the certified part is causing vehicle emissions for any regulated pollutant to be increased (as determined under § 85.2114(b)(2)).

(iv) Use of the certified part causes or contributes to an unreasonable risk to public health, welfare or safety or degrades driveability in its operation or function.

(v) The part has been modified in a manner requiring recertification pursuant to § 85.2118

(vi) The manufacturer of such part has not established, maintained or retained the records required pursuant to § 85.2120

(2) Notice of a preliminary decision to decertify shall contain;

(i) A description of the noncomplying part(s),

(ii) The basis for the Director's preliminary determination,

(iii) The date by which the manufacturer must:

(A) Terminate the sale of the part as a certified part, or

(B) Make the necessary change if so recommended by the Agency, and

(C) Request an opportunity in writing to determine whether the allegations of the notice are correct.

(b) If the aftermarket part manufacturer requests an opportunity to refute such allegations, the manufacturer and other interested parties may submit written presentations, including the relevant information and data, to the Director. The Director, in his or her discretion, may provide an opportunity for oral presentations.

(c) If a notification has been sent to an aftermarket part manufacturer pursuant to paragraph (a) of this section, the Director shall, after reviewing any additional information, notify the aftermarket part manufacturer whether the part may continue to be sold as certified. This notification shall include an explanation upon which the decision was made and the effective date for decertification.

(d) Within 20 days from the date of a decision made pursuant to paragraph (c) of this section, any adversely affected party may appeal the decision to the Deputy Assistant Administrator.

(1) A petition for appeal to the Deputy Assistant Administrator must state all of the reasons why the decision of the Director should be reversed.

(2) The Deputy Assistant Administrator may, in his or her discretion, allow additional oral or written testimony.

(3) If no appeal is filed with the Deputy Assistant Administrator within the permitted time period, the decision of the Director shall be final.

(e) If any part is decertified following the procedures set forth herein, the manufacturer of such part shall notify his immediate customers (other than retail customers) that, as of the date of the final determination, the part in question has been decertified. The part manufacturer shall offer to replace decertified parts in the customer's inventory, with certified replacement parts; or if unable to do so shall at the customer's request, repurchase such inventory at a reasonable price.

(f) Notwithstanding the requirements of paragraph (e) of this section, a part purchased by a vehicle owner as certified, shall be considered certified pursuant to this subpart.

§ 85.2122 Emission Critical Parameters.

(a) The following parts may be certified in accordance with § 85.2114(a)(1):

(1) *Carburetor Vacuum Break* (Choke Pull-Off)

(i) The emission critical parameters for carburetor vacuum breaks are:

(A) Diaphragm Displacement

(B) Timed Delay

(C) Modulated Stem Displacement

(D) Modulated Stem Displacement Force

(E) Vacuum Leakage

(ii) For the purposes of this paragraph:

(A) "Diaphragm Displacement" means the distance through which the center of the diaphragm moves when activated. In the case of a non-modulated stem, diaphragm displacement corresponds to stem displacement.

(B) "Timed Delay" means a delayed diaphragm displacement controlled to occur within a given time period.

(C) "Modulated Stem Displacement" means the distance through which the modulated stem may move when actuated independent of diaphragm displacement.

(D) "Modulated Stem Displacement Force" means the amount of force required at start and finish of a modulated stem displacement.

(E) "Vacuum Leakage" means leakage into the vacuum cavity of a vacuum break.

(F) "Vacuum Break" ("Choke Pull-off") means a vacuum operated device to open the carburetor choke plate a predetermined amount on cold start.

(G) "Modulated Stem" means a stem attached to the vacuum break diaphragm in such a manner as to allow stem displacement independent of diaphragm displacement.

(H) "Vacuum Purge System" means a vacuum system with a controlled air flow to purge the vacuum system of undesirable manifold vapors.

(2) *Carburetor Choke Thermostats.* (i) The emission critical parameters for all Choke Thermostats are:

(A) Thermal Deflection Rate

(B) Mechanical Torque Rate

(C) Index Mark Position

(ii) The emission critical parameters for Electrically Heated Choke Themostats are:

(A) Those parameters set forth in subparagraph (2)(ii) of this paragraph

(B) Time to rotate coil tang when electrically energized

(C) Electrical circuit resistance

(D) Electrical switching temperature

(iii) For the purpose of this paragraph:

(A) "Choke" means a device to restrict air flow into a carburetor in order to enrich the air/fuel mixture delivered to the engine by the carburetor during cold-engine start and cold-engine operation.

(B) "Thermostat" means a temperature actuated device.

(C) "Electrically-heated Choke" means a device, which contains a means for applying heat to the thermostatic coil by electrical current.

(D) "Thermostatic Coil" means a spiral-wound coil of thermally sensitive material which provides rotary force (torque) and/or displacement as a function of applied temperature.

(E) "Thermostatic Switch" means an element of thermally sensitive material which acts to open or close an electrical circuit as a function of temperature.

(F) "Mechanical Torque Rate" means a term applied to a thermostatic coil, defined as the torque accumulation per angular degree of deflection of a thermostatic coil.

(G) "Thermal Deflection Rate" means the angular degrees of rotation per degree of temperature change of the thermostatic coil.

(H) "Index or Index Mark" means a mark on a choke thermostat housing, located in a fixed relationship to the thermostatic coil tang position to aid in assembly and service adjustment of the choke.

(I) "PTC Type Choke Heaters" means a positive temperature coefficient resistant ceramic disc capable of providing heat to the thermostatic coil when electrically energized.

(3) *Carburetor Accelerator Pumps.* (i) The emission critical parameter for accelerator pumps (plungers or diaphragms) is the average volume of fuel delivered per stroke by the pump within prescribed time limits.

(ii) For the purpose of this paragraph an "Accelerator Pump (Plunger or Diaphragm)" means a device used to provide a supplemental supply of fuel during increasing throttle opening as required.

(4) *Positive Crankcase Ventilation (PCV) Valves.* (i) The emission critical parameter for a PCV valve is the volume of flow as a function of pressure differential across the valve.

(ii) For the purposes of this paragraph a "PCV Valve" means a device to control the flow of blow-by gasses and fresh air from the crankcase to the fuel induction system of the engine.

(5) *Breaker Points.* (i) The emission critical parameters for breaker points are:

(A) Bounce

(B) Dwell Angle

(C) Contact Resistance

(ii) For the purposes of this paragraph:

(A) "Breaker Point" means a mechanical switch operated by the distributor cam to establish and interrupt the primary ignition coil current.

(B) "Bounce" means unscheduled point contact opening(s) after initial closure and before scheduled reopening.

(C) "Dwell Angle" means the number of degrees of distributor mechanical rotation during which the breaker points are conducting current.

(D) "Contact Resistance" means the opposition to the flow of current between the mounting bracket and the insulated terminal.

(6) *Capacitors/Condensers.* (i) The emission critical parameters for capacitors/condensers are:

(A) Capacitance

(B) Series Resistance

(C) Breakdown Voltage

(ii) For the purposes of this paragraph:

(A) "Capacitance" means the property of a device which permits storage of electrically separated charges when differences in electrical potential exist between the conductors and measured as the ratio of stored charge to the difference in electrical potential between conductors.

(B) "Series Resistance" means the sum of resistances from the condenser plates to the condenser's external connections.

(C) "Breakdown Voltage" means the voltage level at which the capacitor fails.

(D) "Capacitor/Condenser" means a device for the storage of electrical energy consisting of two oppositely charged conducting plates separated by a dielectric and which resists the flow of direct current.

(7) *Distributor Caps and/or Rotors.* (i) The emission critical parameters for distributor caps and/or rotors are:

(A) Physical and Thermal Integrity

(B) Dielectric Strength

(C) Flashover

(ii) For the purposes of this paragraph:

(A) "Flashover" means the discharge of ignition voltage across the surface of the distributor cap and/or rotor rather than at the spark plug gap.

(B) "Dielectric Strength" means the ability of the material of the cap and/or rotor to resist the flow of electric current.

(C) "Physical and Thermal Integrity" means the ability of the material of the cap and/or rotor to resist physical and thermal breakdown.

(8) *Spark Plugs.* (i) The emission critical parameters for spark plugs are:

(A) Heat Rating

(B) Gap Spacing

(C) Gap Location

(D) Flashover

(E) Dielectric Strength

(ii) For the purposes of this paragraph:

(A) "Spark Plug" means a device to suitably deliver high tension electrical ignition voltage to the spark gap in the engine combustion chamber.

(B) "Heat Rating" means that measurement of engine indicated mean effective pressure (IMEP) value obtained on the engine at a point when the supercharge pressure is 25.4mm (one inch) Hg below the preignition point of the spark plug, as rated according to SAE J549A Recommended Practice.

(C) "Gap Spacing" means the distance between the center electrode and the ground electrode where the high voltage ignition arc is discharged.

(D) "Gap Location" means the position of the electrode gap in the combustion chamber.

(E) "Dielectric Strength" means the ability of the spark plug's ceramic insulator material to resist electrical breakdown.

(F) "Flashover" means the discharge of ignition voltage at any point other than at the spark plug gap.

(9) *Inductive System Coils.* (i) The emission critical parameters for inductive system coils are:

(A) Open Circuit Voltage Output

(B) Dielectric Strength

(C) Flashover

(ii) For the purposes of this paragraph:

(A) "Coil" means a device used to provide high voltage in an inductive ignition system.

(B) "Flashover" means the discharge of ignition voltage across the coil.

(C) "Dielectric Strength" means the ability of the material of the coil to resist electrical breakdown.

(10) *Primary Resistors.* (i) The emission critical parameter for primary resistors is the DC resistance.

(ii) For the purpose of this paragraph a "Primary Resistor" means a device used in the primary circuit of an inductive ignition system to limit the flow of current.

(11) *Breaker Point Distributors.* (i) The emission critical parameters for breaker point distributors are:

(A) Spark Timing

(*1*) Initial Timing

(*2*) Centrifugal Advance Characteristics

(B) Dwell Angle

(C) Breaker point contact operation

(D) Electrical resistance to ground

(E) Capacity for consistency with § 85.2122(a) (5), (6), (7), (8) and (9).

(ii) For the purposes of this paragraph:

(A) "Distributor" means a device for directing the secondary current from the induction coil to the spark plugs at the proper intervals and in the proper firing order.

(B) "Distributor Firing Angle" means the angular relationship of breaker point

openings from one opening to the next in the firing sequence.

(C) "Dwell Angle" means the number of degrees of distributor mechanical rotation during which the breaker points are capable of conducting current.

(12) *Engine Valves.* (i) The emission critical parameter for engine valves is leakage.

(ii) For the purpose of this paragraph an "engine valve" means a mechanical device for regulating the primary flow of gasses directly into and out of the combustion chamber of an internal combustion engine.

(13) *Camshafts.* (i) The emission ciritcal parameters for Camshafts are:

(A) Cam Lobe Profile (See Figure 1)

(*1*) Ramp

(*2*) Flank

(*3*) Lift

(*4*) Base Circle Runout

(B) Journal Runout

(C) Cam Lobe Phasing

(D) Camshaft Timing (Indexing) Location

(ii) For the purposes of this paragraph:

(A) "Camshaft" means a device used to impart the desired motion to open and close the engine valves a predetermined amount and for a predetermined interval in an internal combustion engine.

(B) "Journal" means that portion of a camshaft which runs in a supporting bearing.

(C) "Journal Runout" means the measured eccentricity of a journal with respect to the shaft when rotated between centers.

(D) "Base Circle Runout" means the measured eccentricity of the base circle of a cam lobe with respect to adjacent journals.

(E) "Cam Lobe Phasing" means the angular relationship between nose center lines of the cam lobes.

(F) "Camshaft Timing Location" means the included angle between the keyway or dowel pin and a specified cam lobe.

(14) *Pistons.* (i) The emission critical parameters for Pistons are:

(A) Top land width (See Figure 2)

(B) Top land chamfer

(C) Surface contour of piston head

(D) Compression ratio

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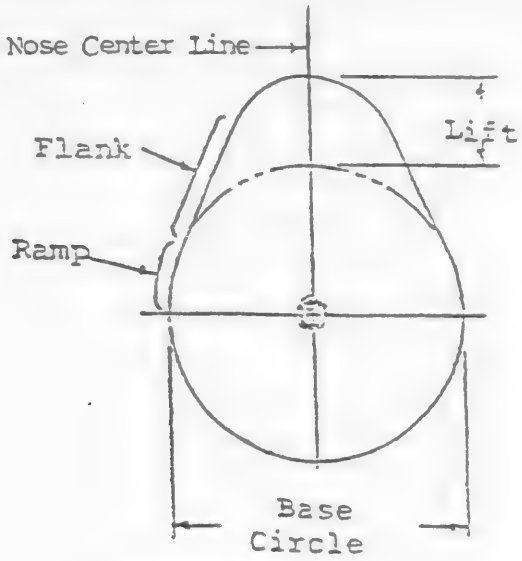
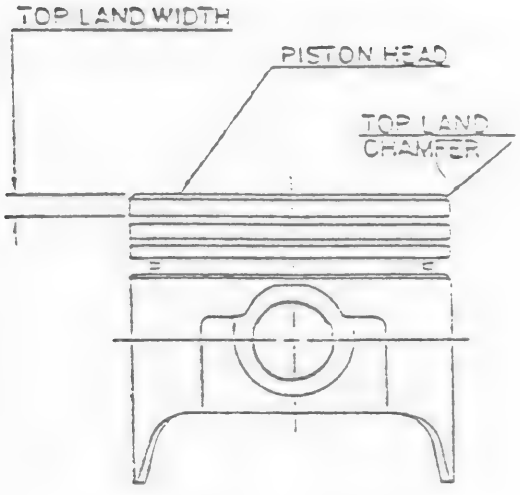


CAMSHAFT LOBE PROFILE

FIGURE 2



TYPICAL PISTON

(ii) For the purposes of this paragraph

(A) "Piston" means a device in an engine through which the forces from the combustion process are transmitted to the mechanical linkage causing rotation of the crankshaft.

(B) "Compression Ratio" means the total cylinder volume with the piston at bottom center divided by the cylinder volume (combustion chamber volume) with the piston at top center.

(C) "Surface-to-Volume Ratio" means the combustion chamber surface area divided by combustion chamber volume with the piston at top center.

(15) *Oxidizing Catalytic Converter.* (i) The emission critical parameters for oxidizing catalytic converters are:

(A) Initial Conversion Efficiency

(B) Final Conversion Efficiency

(C) Light-off Time

(D) Mechanical and Thermal Integrity

(ii) For the purposes of this paragraph:

(A) "Catalytic Converter" means a device installed in the exhaust system of an internal combustion engine that utilize catalytic action to oxidize hydrocarbon (HC) and carbon monoxide (CO) emissions to carbon dioxide (CO_2) an water (H_2O).

(B) "Conversion Efficiency" means the measure of the catalytic converter's ability to oxidize HC/CO to CO_2/H_2O under fully warmed-up conditions stated as a percentage calculated by the following formula:

$$\frac{\text{Inlet conc.} - \text{outlet conc.}}{\text{Inlet conc.}} \times 100$$

Conversion efficiency initial and final refers to the efficiency of a new converter and a converter at the end of its intended useful life (Aged Catalytic Converter), respectively.

(C) "Light-off Time or LOT" means the time required for a catalytic converter (at ambient temperature 68–86°F) to warm-up sufficiently to convert 50% of the incoming HC and CO to CO_2 and H_2O.

(D) "Peak Air Flow" means the maximum engine intake mass air flow rate measures during the 195 second to 202 second time interval of the Federal Test Procedure.

(E) "Feed Gas" means the chemical composition of the exhaust gas measured at the converter inlet.

(F) "Aged Catalytic Converter" means a converter that has been installed on a vehicle or engine stand and operated thru a cycle specifically designed to chemically age, including exposure to representative lead concentrations, and mechanically stress the catalytic converter in a manner representative of in-use vehicle or engine conditions.

(G) "Mechanical and Thermal Integrity" means the ability of a converter to continue to operate at its previously determined efficiency and light-off time and be free from exhaust leaks when subject to thermal and mechanical stresses representative of the intended application.

(16) *Air Cleaner Filter Element.* (i) The emission critical parameter for Air Cleaner Filter Elements is Air Flow Restriction.

(ii) For the purposes of this paragraph "Air Cleaner Filter Element" means a device to remove particulates from the primary air that enters the air induction system of the engine.

(17) *Electronic Inductive Ignition System and Components.* (i) The emission critical parameters for electronic ignition system and components are:

(A) Spark Rise Time

(B) Spark Duration

(C) Spark Voltage Output

(D) Ignition Timing or Delay

(ii) For the purpose of this paragraph

(A) "Electronic Inductive Ignition System and Components" means a triggering device and electronic control unit which delivers the proper electrical signal to an ignition system coil.

(B) "Spark Rise Time" means the time required for the spark voltage to increase from 10% to 90% of its maximum value.

(18) *Electronic Inductive Distributors.* (i) The emission critical parameters for electronic inductive distributors are:

(A) Spark Timing:

(*1*) Initial Timing.

(*2*) Centrifugal Advance Characteristics.

(B) Sensor/Trigger Operation.

(C) Capacity for consistency with§ 85.2122 (7), (8), (9) and (17).

(ii) For the purposes of this paragraph:

(A) "Sensor/Trigger" means a device which provides the timing signal for the electronic ignition system components.

(B) "Distributor Firing Angle" means the angular relationship from one cylinder firing to the next in the firing sequence.

(b) Reserved for Add-on part standards.

This notice of proposed rulemaking is issued under authority of the following sections of the Clean Air Act as amended: 207 (42 U.S.C. 7541), 208 (42 U.S.C. 7542) and 301 (42 U.S.C. 7601). The regulations would implement section 207(a)(2) of the Clean Air Act as Amended August 1977.

Appendix—Recommended Test Procedures and Test Criteria and Recommended Durability Procedures To Demonstrate Compliance With Emission Related Standards.

A. Carburetor Vacuum Break (Choke Pull-Off)

1. *Test Procedure and Criteria.* a. Vacuum leakage: Apply 457 ± 13 mm (18.0 ± 0.5 inches) Hg. vacuum to the vacuum unit to achieve full diaphragm displacement. Seal vacuum source to unit. There shall be no visible loss of diaphragm displacement or drop in vacuum gage reading after a 15 second observation. Vacuum purge system and diaphragm displacement adjusting screw holes should be temporarily sealed during this test when applicable.

b. Diaphragm displacement: At stabilized temperature of −29° C and 121° C (−20° F and 250° F) with 457 ± 13 mm (18.0 ± 0.5 inches) Hg. vacuum applied to unit, the diaphragm displacement shall be within ± 1 mm (0.04 inches) of the nominal original equipment displacement. The vacuum purge system must be open during this test when applicable. Adjusting screws that limit displacement should be temporarily removed and adjusting screw holes temporarily sealed during this test.

c. Timed delay: (when applicable) With 457 ± 13 mm (18.0 ± 0.5 inches) Hg. applied to the unit, the vacuum break diaphragm displacement shall occur within ± 20% of the original equipment time over the specified range of displacement. The diaphragm displacement shall be timed over the same distance for the original equipment as the replacement part and shall not be less than 60% of the total displacement range. The vacuum purge system must be open and the adjusting screw holes should be temporarily sealed during this test when applicable.

d. Modulated stem displacement: (when applicable) With a force sufficient to extend the modulated stem to its full displacement, the displacement shall be within ± 0.8 mm (± 0.03 inches) of the original equipment specification.

e. Modulated stem displacement force: (When applicable) The force required to start and finish the modulated stem displacement shall be within ± 35% of the original equipment specification for forces up to 142 grams (5 ounces) and shall be within ± 20% of the original equipment specification for forces exceeding 142 grams (5 ounces).

2. *Durability Procedures:* After 250,000 full displacement cycles (from atmospheric pressure to a minimum of 530 mm (21 inches) Hg. vacuum at a temperature of 79° C (175° F)) in air, the following conditions shall be met:

a. Diaphragm displacement shall not degrade more than 10% from the original test measurements of paragraph 1.b. above.

b. Timed delay shall not degrade more than 10% from the original test measurement in paragraph 1.c. above.

c. Following these tests, the units must be free of visible defects.

B. Carburetor Choke Thermostats

1. *Test Procedures and Criteria.* a. All chokes.

i. *Thermal deflection rate.* When tested on a suitable fixture, the deflection rate shall be within ± 6% of the original equipment value. The initial temperature and final temperature for purposes of this test may vary but shall exhibit a test temperature range of at least 44° C (80° F). Recommended test equipment, test procedures, and associated calculations are outlined in ASTM B389 (latest revision) or American National Standards Institute Z155–20.

ii. *Mechanical torque rate.* When tested on a suitable fixture, the torque rate shall be within ± 12% of the mean original equipment value. Recommended test equipment, test procedures, and associated calculations are outlined in ASTM B362 (latest revision) or American National Standards Institute Z155–18 (latest revision).

iii. *Index mark position.* When stabilized for four hours at room temperature, the relative position of the thermostatic coil outer tang or loop and the index mark, when corrected to 24° C (75° F), shall be within ± 5 angular degrees of the mean original equipment positions.

b. Electrically-heated Chokes.

i. *Time to rotate coil tang.* When tested on a suitable fixture, the time to rotate through a prescribed angle at a prescribed temperature and prescribed voltage, for the specific choke device under test shall be within ± 12 seconds or ± 25% of the mean original equipment value whichever is greater.

ii. *Electrical circuit resistance.* In an electrically-heated choke utilizing PTC type choke heater, the circuit resistance shall be within ± 1.5 ohms of the mean original equipment value at 24 ± 3° C (75° ± 5° F) unenergized.

iii. *Electrical switching temperature.* In an electrically heated choke thermostat utilizing a thermostatic disc switch in the electrical circuit, the temperature to open the circuit shall be within ± 5.5° C (10° F) and the temperature to close the circuit shall be within ± 11° C (20° F) of the mean original equipment value. Circuit opening temperature shall be measured on a decreasing temperature change, and the circuit closing temperature shall be measured on an increasing temperature change.

C. Carburetor Accelerator Pumps

1. *Test Procedure and Criteria.* a. Expose plunger or diaphragm assembly to temperatures of −30° C and +120° C (−20° F and +250° F); for 70 hours at each temperature with a commercial grade fuel or equivalent.

b. Within one hour after temperature exposure of 1.a. above, each plunger or diaphragm assembly, when installed in an applicable carburetor or test fixture, shall, at room temperature, deliver a volume of test fluid (Stoddard solvent or equivalent) from a 10 stroke cycle,* within ± 30% of the volume from a 10 stroke cycle of an original equipment plunger or diaphragm assembly.

2. *Durability Procedure:* After 250,000 operational cycles, at approximately 30 cycles per minute, at room temperature in test fluid, the output of the plunger/diaphragm shall not drop below 90% of the low limit as established in 1.b.

D. Positive Crankcase Ventilation Valve

1. *Test Procedure and Criteria.* a. Measure the flow of the PCV valve in standard cubic feet per minute (SCFM) vs. pressure differential across the valve over the intended range of operation at standard atmospheric conditions (70° F (21.1° C) at 29.92 inches (755 mm) Hg.).

b. A PCV valve shall flow within the vehicle manufacturer's specifications or shall meet the following criteria: Whenever the mean of the original equipment flow curve is below 1 SCFM, a maximum deviation of the mean replacement PCV valve shall not exceed ±0.1 SCFM. Whenever the mean original equipment curve is equal to or greater than 1 SCFM, a maximum deviation of the mean of the replacement PCV valve shall not exceed ±10%. The total flow tolerance of the replacement valve shall not exceed the original equipment variation from the mean, at any pressure differential.

2. *Durability Procedure:* The flow of any specific PCV valve must not deviate from its original flow curve by more than the total original allowable tolerance when operated in the intended vehicle application over the service interval stated by the certifier.

E. Breaker Points

1. *Test Procedures and Criteria.* a. Set up test system circuit and equipment per Figure 3 with an OE breaker point assembly. Connect the primary to a 14±.5 V DC regulated power supply.

b. Record dwell angle and open-circuit output voltage at 300, and 500 distributor rpm and at 500 rpm intervals up to the maximum speed of the intended application.

c. Insert the replacement part in the test system and repeat the observations per b above under identical test conditions.

d. The data observed with the replacement part in the system must meet the following criteria:

(1) The dwell angle change: Not to exceed that of the original equipment by more than ±1° at all measured rpm intervals.

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**10 stroke cycle:* 10 strokes from closed throttle plate position to wide open throttle plate position occurring within a 15–25 second time period.

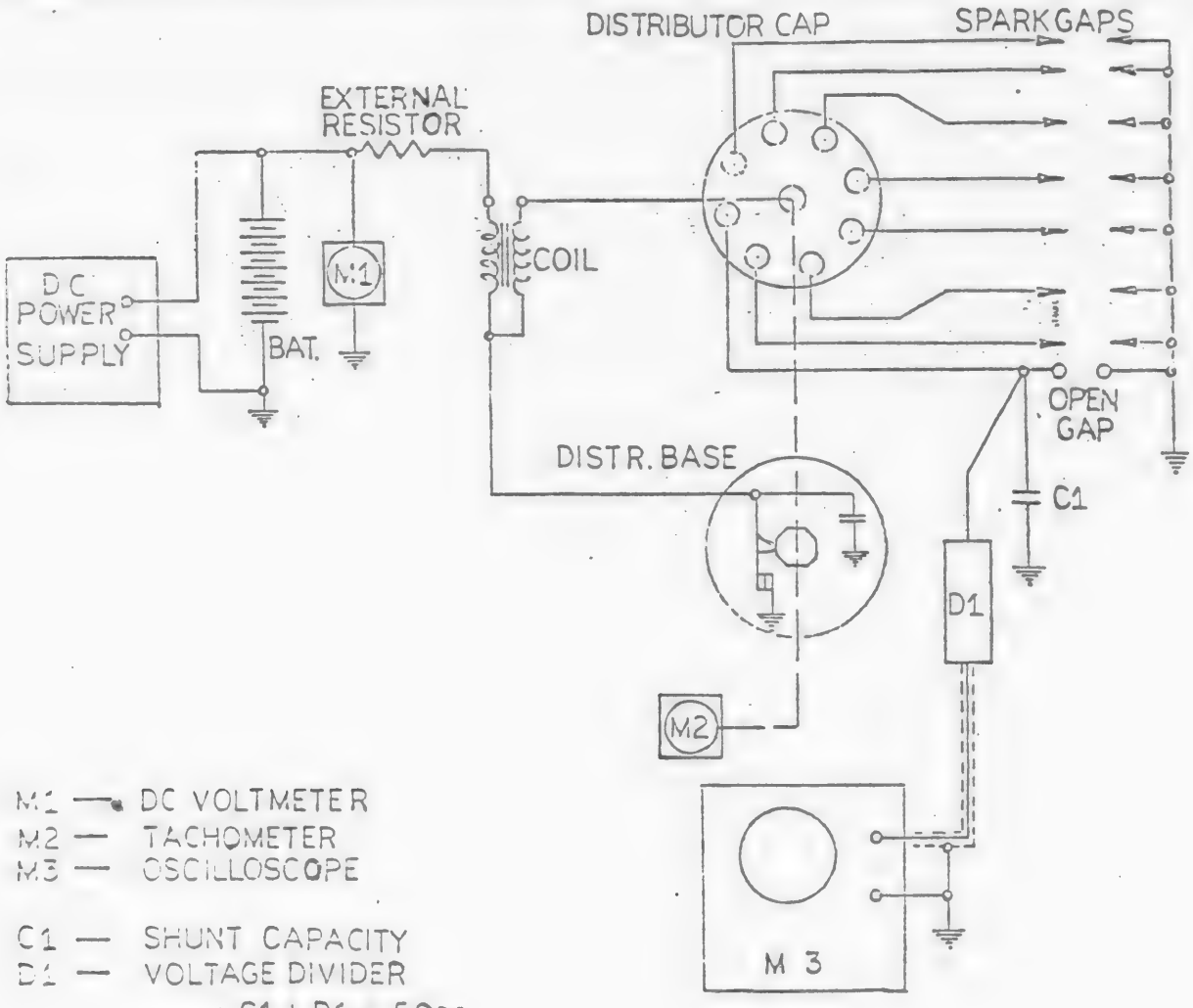

FIGURE 3

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(2) The open circuit output voltage (M–3): Not less than 90% of the OE breaker point assembly at any measured rpm.

e. Repeat step c above at −40° C (−40° F) and 100° C (212° F).

f. The breaker points shall operate without evidence of point bounce at all test speeds and temperatures and shall operate easily without binding when operated manually.

2. *Durability Procedures.* a. Set up a bench ignition system using an applicable distributor or electro-mechanical equivalent.

b. Install the breaker point assembly under test in the distributor; lubricate and adjust per applicable vehicle manufacturer's specifications. Use applicable coil, primary resistor, capacitor, cap and rotor.

c. Connect the primary of the test system with a power supply regulated at 14±0.5 V DC for a 12 V system.

d. The secondary portion of the test system is to be connected to a 12±2KV spark gap.

e. An external heat source shall generate an ambient temperature of 88° to 93° C (190° to 200° F) for the distributor.

f. Drive the distributor at 1750±50 rpm for 200 hours. After each 50 hour interval, run the distributor for 5 minutes with one open circuit spark gap instead of a 12 KV gap.

g. The replacement breaker point assembly must have the capability of performing throughout the duration of the test without evidence of any failure resulting in loss of spark in the 12 KV spark gap.

h. After the 200 hours repeat step 1.c. above. The open circuit output voltage must be at least 90% of that measured in 1.c.

F. Capacitors/Condensers

1. *Test Procedures and Criteria.* a. The electrostatic capacitance of the replacement condenser shall be within ±20% of the value of the original part at 20±3° C (68 ±5° F). The capacitance is to be measured on a capacitance bridge having an accuracy of ±1% at 1 KHz frequency.

b. Set up the test system in accordance with Figure 3. The condenser series resistance shall be such that the output voltage at 500 distributor rpm with the replacement condenser shall not be less than 90% of the output voltage (M–3) with the original equipment condenser.

c. The capacitor must be able to withstand a minimum test voltage of 500 V DC for a minimum of 0.1 seconds without failure.

d. (1) Measure capacitance after 4 hours minimum soak at 88° to 93° C (190° to 200° F).

(2) After one hour at room temperature, place capacitor at −18° C (0° F) for 4 hours minimum and measure capacitance.

(3) Place capacitor at room temperature for 4 hours minimum and measure capacitance.

e. After thermal cycling, repeat 1. a. and b. The results must be within ±10% of the initial measurements.

2. *Durability Procedure.* a. Set up a bench ignition system using an applicable distributor or an electro-mechanical equivalent.

b. Install the capacitor under test in the distributor adjusted to applicable vehicle manufacturer's specifications. Use applicable coil, primary resistor, breaker points, cap and rotor.

c. Connect the primary of the test system with a power supply regulated at 14±0.5 V DC for 12 V system.

d. The secondary portion of the test system is to be connected to a 12±2 KV spark gap.

e. An external heat source shall generate an ambient temperature of 88° to 98° C (190° to 200° F) for the distributor.

f. Drive the distributor at 1750±50 rpm for 200 hours. After each 50 hour interval, run the distributor for 5 minutes with one open circuit spark gap instead of a 12 KV gap.

g. The replacement part must have the capability of performing throughout the duration of the test without evidence of any failure resulting in loss of spark in the 12 KV spark gap.

h. After the 200 hours, the condenser shall be within 10% of the capacitance and voltage measured in 1a. and b. respectively.

G. Distributor Caps and/or Rotors

1. *Test Procedures and Criteria.* a. Set up test system in accordance with the circuit and equipment per Figure 3 with OE distributor cap and/or rotor. Connect the primary to a 14±.5 V DC regulated power supply.

b. Record open circuit output voltage (M–3) at 300 and 500 distributor rpm and at intervals of 500 distributor rpm up to the maximum speed of the intended application.

c. Insert the intended replacement part(s) in the system and repeat step b. above under identical test conditions.

d. Subject the intended replacement parts to the following thermal sequence through five complete cycles:

1. 12 hours at −40° C (−40° F).
2. 2 hours at room temperature.
3. 4 hours at 100° C (212° F).
4. 2 hours at room temperature.

e. Repeat step b. above with the replacement part(s).

f. The output voltages measured with the replacement part in the system must be at least 90 percent of the output voltage with the OE cap and/or rotor.

2. *Durability Procedures.* a. Set up test system in accordance with circuit and equipment per Figure 3.

b. Install the cap and/or rotor under test in the distributor, lubricate and adjust per applicable vehicle manufacturer's specifications. Use equivalent coil, primary resistor, breaker points and capacitor.

c. Connect the primary of the test system with a power supply regulated at 14±0.5 V. D.C.

1. In breaker point operated systems, connect secondary to a 12 KV±2 KV gap.

2. In electronic ignition systems, connect secondary to a gap equivalent to at least 50 percent of peak open-circuit voltage.

d. An external heat source shall generate an ambient temperature of 88° to 93° C (190° to 200° F) for the distributor.

e. Distributor shall be driven at 1750±50 rpm for 200 hours. After each 50 hour interval, run the distributor for 5 minutes with one open circuit spark gap instead of a 12 KV gap.

f. The replacement parts must have the capability of performing throughout the duration of the test without evidence of any failure resulting in loss of spark at the spark gap.

g. Repeat step 1.c. above. The open circuit output voltage must be at least 90 percent of that measured in step 1.c.

h. The replacement cap and/or rotor must be free of any visual cracks, arcing or melting.

H. Spark Plugs

1. *Test Procedures and Criteria.* a. Heat rating: When comparatively rated in the SAE 17.6 Spark Plug Rating engine according to the SAE J549a Recommended Practice, the comparative average rating of at least five (5) replacement spark plugs shall not be less than 85 percent of the average IMEP of at least five (5) OE spark plugs.

b. Gap spacing: The electrode spark gap shall be equivalent or adjustable to the recommended gap for the original equipment spark plug.

c. Gap location: The electrode gap position in the chamber shall be the same as specified by the vehicle manufacturer.

d. Flashover: The spark plug terminal end, with the properly fitted connecting boot, shall not flashover at peak anticipated voltage for the intended application.

I. Inductive System Coils

1. *Test Procedures and Criteria.* a. Set up the circuit in accordance with Figure 3. Operate the circuit by an applicable distributor or equivalent triggering device and applicable primary resistor with a 50 pf load at 14.0±0.50 volts DC input as applicable and stabilized at an ambient temperature of 20° C±3° C (68° F±5° F).

b. With the original equipment coil installed, record the predominant minimum peak voltage at 300 and 500 distributor rpm, and at 500 rpm intervals up to the maximum intended operating speed. The measurement is to be taken after 4 minutes operation at each speed.

c. Install the replacement coil to be tested and repeat step b. above.

d. The replacement coil shall have an open-circuit output voltage (M–3) at least 90 percent of the OE coil output voltage at each distributor test speed.

2. *Durability Procedure.* a. Install the replacement ignition coil in the ignition system using the applicable rotor, cap, capacitor, breaker points, and primary resistor.

b. Operate the circuit with a regulated power supply of 14.0±.5 volts DC connected to the primary at an ambient temperature of 90° C (194° F) at 1750±50 distributor rpm for a duration of 200 hours. After each 50 hour interval, run the distributor for 5 minutes with one open circuit spark gap instead of a 12 KV gap.

c. The ignition coil shall perform throughout the test without any evidence of coil failure which would result in the loss of the spark in the 12 KV spark gap.

d. Repeat Step 1.c above. The open circuit output voltage must be at least 90 percent of that measured in 1.c.

J. Primary Resistors

1. *Test Procedures and Criteria.* a. Configure the circuit shown in Figure 4, using the original equipment resistor.

b. At 20±3° C (68±5° F), apply voltage for 15 minutes; maintain current at 2.5 amps. At conclusion of 15 minutes, read voltage and current. Calculate resistance using the relationship.

$$R = E/L$$

where

R = Resistance in ohms,
E = Voltage (V) in volts,
I = Current (A) in amps.

c. Replace OE test sample with part to be certified and repeat step b. above.

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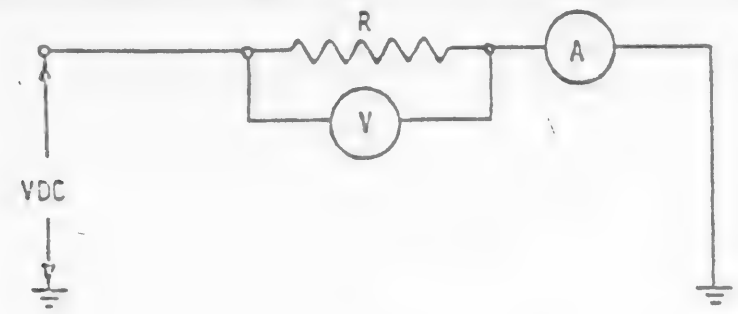
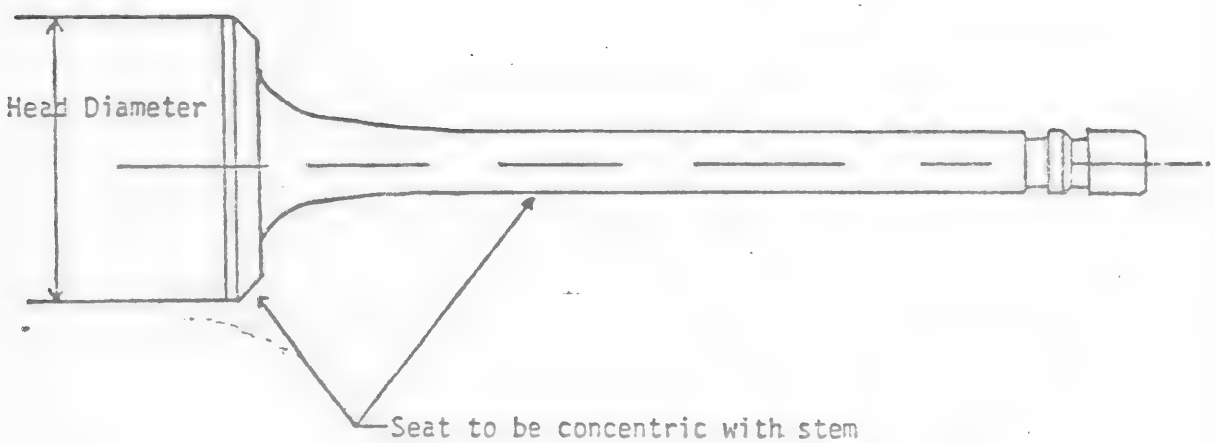


Current A to be maintained at 2.5 amps for duration of test.

FIGURE 4



Seat to be concentric with stem diameter to within 0.05mm (0.002 in.) * total indicator reading.

*0.076mm (0.003 in.) concentricity when head O.D. over 2.0 inches.

FIGURE 5

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d. Resistance of the part shall be within ± 20% of original equipment resistance.

2. *Durability Procedure.* a. Using the circuit shown in Figure 1, apply current at 80° to 93° C (192° to 200° F), for 200 hours.

b. After 200 hours retest as in step 1.c above, and verify that resistance is within ± 20% of the value as measured in step 1.b. above.

K. Distributors—Breaker Point

1. *Test Procedures and Criteria.* a. Using an appropriate test installation, operate the distributor through its intended speed range.

b. The advance mechanism shall function within the tolerance of the vehicle manufacturer's original specification over the speed range of the intended application.

c. The advance mechanism shall repeatedly return to the zero setting ± 0.5 distributor degrees after advancing and retarding through the operating range.

d. The distributor firing angle accuracy shall remain within the originally specified tolerances throughout the speed range of the intended application.

e. The distributor shall be capable of maintaining the dwell angle of the original equipment specification ± 2 degrees throughout the speed range of the intended application.

f. The distributor shall be free from contact bounce and be capable of open-circuit output voltage (M–3) equal to at least 90% of the voltage produced by the original equipment system over the speed range of the intended application.

2. *Durability Procedure.* a. At an ambient temperature of 88 to 93° C (190° to 200° F), operate the distributor at 1750 ± 50 rpm for 300 hours.

b. The distributor must meet the requirements of paragraph 1b through f after the 300 hours.

L. Engine Valves

1. *Test Procedure and Criteria.* a. The valve must conform to the stem-to-seat concentricity requirement as illustrated and specified in Figure 5.

b. The valve must comply with the following leak test acceptance procedure or an alternate procedure which the certifier can correlate with the specified procedure:

(i) With a valve installed on a master seat with a pressure of 20 PSIG applied to the combustion chamber side, the leakage rate shall not exceed 5.000 cc (305 inch^3) of air per minute or the OE leakage rate as measured in the same manner, whichever is less.

M. Camshafts

1. *Test Procedures and Criteria.* The camshaft shall meet the tolerances of the vehicle manufacturer if available, or the following tolerances if OE data are not available:

Characteristic	Tolerance
Ramp	±0.025 mm (±0.001 Inches).
Flank	±0.076 mm (±0.003 Inches).
Lift	±0.076 mm (±0.003 Inches).
Base Circle Runout	0.025 mm (.001 Inches) TIR.*
Journal Runout	0.102 mm (.004 Inches) TIR.*
Lobe Phasing	±30 Minutes.
Cam Timing	±30 Minutes.

*Total Indicated Reading.

N. Pistons

1. *Test Procedures and Criteria.* a. Top land width shall not exceed that of the original equipment part.

b. Top land chamfer shall not be less than that of the original equipment part.

c. Head surface contour shall be that of the original equipment part and shall not increase the surface-to-volume ratio of the total combustion chamber by more than 10% (with surface-to-volume ratio calculated according to SAE Recommended Practice J604C).

d. Compression ratio variation from original equipment part shall not exceed ± .5 ratio (with compression ratio calculated according to SAE Recommended Practice J604C).

O. Oxidizing Catalytic Converters

1. *Test Procedures and Criteria.* a. The Conversion Efficiency and Light-off Time of the replacement catalytic converter shall be equal to or exceed that of the original equipment converter for CO and HC emissions. These parameters shall be determined for both converters under the same conditions using the following steady state feed gas concentrations and conditions for LOT and Conversion Efficiency respectively:

	Lot	Conversion efficiency
Exhaust mass flow rate	See note (2)	See note (1).
Total Hydrocarbons	See note (3)	See note (3).
Carbon Monoxide	2.0% maximum.	1.0% maximum.
Hydrogen	0.33 × % CO maximum.	0.33 × % CO maximum.
Oxygen	1.5 × % Co maximum.	1.5 × % CO maximum.
Converter Inlet Gas Temperature.	650° F to 750° F.	850° F to 950° F.

NOTE 1.—Not less than peak air flow of the vehicle or engine configuration being certified for. If more than one vehicle or engine application is to be covered by a generic converter, the greatest peak vehicle or engine air flow shall be used.

NOTE 2.—Not greater than 0.40 times the value determined in Note 1.

Note 3.—300 parts per million by volume minimum based on Methane calibration. If a non-engine simulator gas source is used, a mixture ratio of 10% propane to 90% propylene by volume will constitute an acceptable synthetic for total exhaust hydrocarbons.

(i) LOT tests shall be conducted by exposing the converter to a step change in temperature, from ambient to that specified above: 650°–750°. Converter inlet and outlet exhaust emissions are measured. Light-off time is then determined by recording the time required for the converter to reduce the outlet emissions (HC and CO) to 50% of the inlet emissions, on a volumetric concentration basis, measured from the step temperature change.

(ii) Conversion efficiency measurements shall be obtained by passing stabilized feed gas through the converter (at conditions specified above) and making simultaneous measurements of inlet and outlet emission volume concentrations. The conversion efficiency for CO and HC is then calculated.

(b) Aged catalytic converters may be obtained by operating the converter on the individual vehicle or engine application for which it is intended on the Federal Test Procedure road durability driving cycle for the stated service interval for the replacement converter or for the warranted life of the original equipment converter.

(c) Where one generic converter is intended to cover multiple vehicle or engine configurations, converter aging may be obtained per Paragraph (b) above, on a vehicle or engine which represents the greatest peak air flow of the group of vehicle configurations to be covered, and whose calibration and feed gas concentrations are representative of the vehicle or engine configurations being certified for.

2. *Other Considerations.* (a) Replacement converter location on the vehicle must be within ±8 inches of the original equipment converter location.

(b) Pressure drop measured between inlet and outlet pipe interconnecting points on the replacement converter shall be within ±25% of similar measurements for the original equipment converter being replaced, when measured at each of three flow conditions 50 SCFM, 100 SCFM and 150 SCFM with a suitable fluid medium such as air. All measurements must be normalized to equal density conditions.

P. Air Cleaner Filter Element

1. *Test Procedures and Criteria.* (a) On a suitable test stand or fixture, such as described in SAE J–726, measure the air flow restriction, in terms of pressure drop across the original equipment air filter element at a minimum of 200 SCFM.

(b) Under conditions identical to the above, measure the air flow restriction of the air filter element to be certified.

(c) The restriction measured in (b) shall be less than 9 inches H_2O greater than that measured in (a).

2. *Durability Procedure.* (a) After use in the intended vehicle or engine application for the recommended service interval, the replacement element shall not result in a further restriction of 9 inches H_2O pressure

drop than that measured in 1.(b) above when tested in the identical manner.

Q. Electronic Inductive Ignition System and Components

1. *Test Procedures and Criteria.* a. Set up test system circuit and equipment per Figure 6 with OE electronic ignition system components. All bench tests shall be performed at 20° C±3° (68° F±5°) ambient temperature with component temperatures stabilized at operating temperature for repeatability. The DC power source shall be 14V±0.5V with a minimum output current capability of 10 amperes. Excluding coil capacitance, the total secondary shunt capacitance shall be 50±5 picofarads.

b. Using OE components, measure spark rise time, spark duration, spark voltage output and ignition timing or delay at 300 and 500 distributor rpm and at 500 rpm intervals up to the maximum speed of the intended application.

c. Repeat step b. above using the electronic ignition system components to be certified in place of the OE components.

d. (1) Spark rise time: The secondary voltage rise time shall be no more than 10% greater than the OE rise time at any speed.

(2) Spark duration: When measured in a standard 12±2 KV spark gap over the speed range of the intended application, the spark duration using the part(s) to be certified shall be at least 90% of that obtained when original equipment parts are used.

(3) Spark voltage output: The open circuit peak output voltage with the part(s) to be certified shall be at least 90% of the output voltage delivered by the original equipment system.

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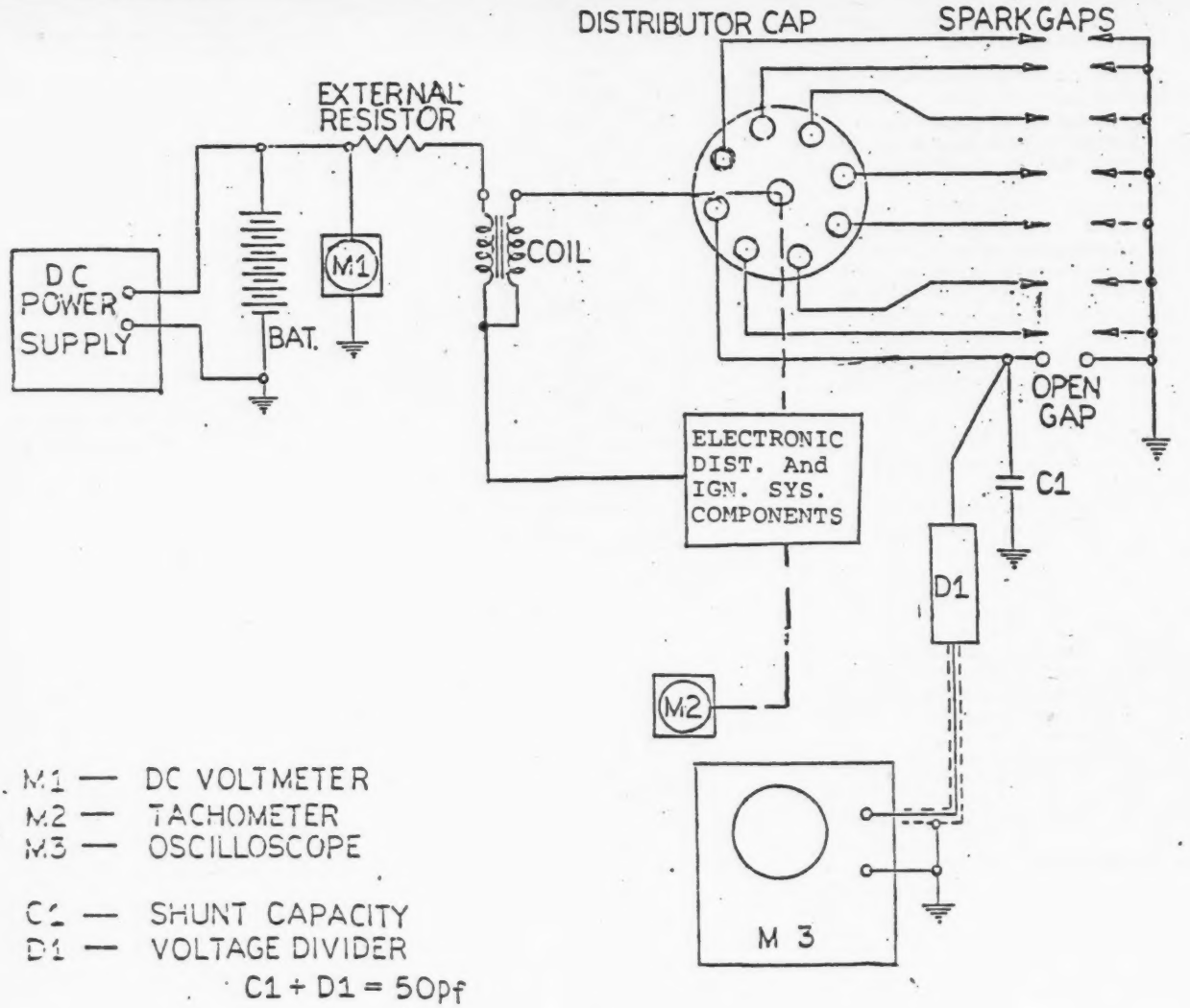

FIGURE 6

BILLING CODE 6560-01-C

(4) Ignition timing or delay: The electronic timing delay shall not be more than three (3) engine degrees (referenced to the initial engine setting) at the OE maximum rated speed of the engine.

2. *Durability Procedure.* a. Set up the circuit according to Figure 6 using the part(s) to be certified.

b. At an ambient temperature of 88 to 93° (190 to 200° F) generated by an external heat source, operate the distributor at 1750±50 rpm for 300 hours.

c. The system and/or components shall operate without any failure which would result in loss of the spark in the 12 KV spark gap for a duration of 300 hours. At the conclusion of the test, the system and/or components shall meet the requirements of Paragraph 1.d. above.

R. Electronic Inductive Distributors

1. *Test Procedures and Criteria.* a. When operated throughout the speed range of the intended application at 20°±3° C, the advance mechanism shall function within the original equipment manufacturer's specifications.

b. The advance mechanism shall repeatedly return to the zero setting, ±0.5 distributor degrees, after advancing and retarding through the operating range.

c. The distributor firing angle accuracy shall remain within the originally specified tolerances throughout the speed range of the intended application.

d. Repeat a, b, and c above at −40° C (−40° F) and 93° C (200° F), allowing ±3° C (5° F) tolerance in each case.

2. *Durability Procedure.* a. At an ambient temperature of 88° to 93° C (190° to 200° F), operate the distributor at 1750±50 rpm for 300 hours.

b. The distributor must meet the requirements of 1 a, b, and c after the 300 hours.

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